







# THE MARYLAND PHARMACIST

Official Journal of The Maryland Pharmaceutical Association

January, 1983 Vol. 59 No. 1



Medicaid Audits—A Court Case

The PEP Program and the Preceptor

1983 Tax Dates you should know

The Lilly Digest



First ever Regional Pharmacy Convention June 26-30th 1983, Ocean City, Maryland

# THE MARYLAND PHARMACIST

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JANUARY, 1983

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The other day four young pharmacy school students dropped into the store to ask questions for a project given them at school. The questions were what you would expect. How long have you been in business? What services do you provide? Do you keep patient profiles? One question they asked which I really did not give much thought to at the time was, "Have you enjoyed what you have been doing the last 30 years?" I gave them a casual yes and let it go at that.

After the students left, that particular question remained in my mind. Have I really been happy in what I have been doing? An unqualified yes. Sure, looking back, pharmacy has provided me with a good living and given me the satisfaction of knowing that I have provided a worthwhile service for my community. I have also made many good friends. I remember telling the students that I did not know which I enjoyed more, being a pharmacist or being a businessman. It's like having the best of two worlds. A pharmacist in a local neighborhood is like being a big fish in a small pond. Your customers look to you for advice and ask your opinion on everything from soup to nuts. It's the place where you earn your degree of "Doc."

Retail pharmacy allows you to practice not only the professional aspects of your profession but also entrepreneurism. Not many professions give you this dual satisfaction. The practice of pharmacy is changing, and I realize that the number of smaller independent pharmacies is diminishing, yet I hope that the students who graduate from our school find the same rewards most of us have received from our profession.

PRESIDENT

# Medicaid Audits, Recoupment, and Due Process\*

The burden is on the pharmacist at all times to prove entitlement to welfare funds. Medicaid audits do not shift the burden of proof nor interfere with a provider's due process protection.

These conclusions—though probably unappealing—derive from a recent ruling by the U.S. Court of Appeals, Seventh Circuit, in the case of an Illinois physician, who appealed a previous decision of liability for repayment of Medicaid funds as the result of an audit.

## The Road to Court

The physician had participated in the Illinois Medical Assistance Program (Medicaid)—administered by the Illinois Department of Public Aid (the Department)—for many years. In 1975 state auditors conducted a routine audit of the physician's records. From a sample of 353 records randomly selected from a total of 1,302 claims turned in during the period of the audit, the Department determined that the physician had been overpaid \$5,018. This overpayment was extrapolated to the total number of claims for which the physician had been reimbursed to arrive at a recoupment claim of \$18,503.30.

The physician challenged the claim and an administrative hearing was held to review the challenge. The Department offered only an explanation of the audited cases and the calculations used to extrapolate the findings. The hearing officer recommended, and the Department accepted the recommendation, that the entire overpayment be recovered.

In accordance with federal provisions, Illinois requires physicians participating in the Medicaid program to keep detailed records of the nature and scope of treatments submitted for reimbursement. After-the-fact audits are conducted to document any excess compensation, because of improper, incorrect, and undocumented billings. The audit procedure is meant to safeguard against fraud and abuse, as required by federal regulation.

Illinois Medicaid audit rules provide for the use of sampling and extrapolation. Physicians may rebut the Department's findings by presenting evidence of invalid sampling or the results of a 100% audit of the records for

which payments were received. It is up to the provider to conduct the 100% audit.

In this case, the audit procedure uncovered four types of discrepancies:

- (1) Bills for which there were no medical records,
- (2) Bills which represented service on a particular day but were not represented in the patient's medical record,
- (3) Bills which did not accurately describe the actual treatment rendered, and
- (4) Bills for services actually rendered by another medical provider.

Overpayments were indeed proven and the Department adhered to administrative procedure.

# The Physician's Argument

The physician chose to litigate the matter on the basis that the use of sampling and extrapolation are contrary to Fourteenth Amendment and state law requirements. Because no evidence was introduced at the hearing with respect to the unaudited cases, the physician argued, due process requirements were not met. The Department, therefore, may not presume that any overpayment occurred, nor estimate the amount of alleged overpayment, for any unaudited cases. In short, the burden of proof rests with the Department.

The physician argued strongly that due process requires that liability be proven in each individual case where the Department claims that an overpayment has occurred. It was also asserted that the Department's audit and recoupment procedures are unconstitutional because they shift the burden of proof to the provider.

The physician then disputed the Department's position that physicians have the opportunity to rebut audit findings of overpayment. Because the Department will not routinely conduct a 100% audit, and because numerous, burdensome preconditions exist before granting a 100% audit, the physician argued, the right to rebut a presumption of liability does not exist in any meaningful way.

The physician, therefore, challenged both the validity of the calculations and the properness of *any* formula for sampling and extrapolation, and disputed the meaningfulness of rebuttal procedures.

# Court Findings

The physician and the Illinois Physicians Union challenged the procedures employed by the Illinois De-

<sup>\*</sup> By Bruce R. Siecker, Ph.D., Director, APhA Pharmacy Management Institute and Bruce A. Berger, Ph.D., Assistant Professor, Auburn University School of Pharmacy

partment of Public Aid in district court. Disagreeing with the findings of the district court, the physician then appealed to the U.S. Court of Appeals. The appeals court decision affirmed the lower court's findings, which upheld the Department's decision.

The court noted that extrapolation based on the use of a statistical sample is recognized as a valid basis for determining the legitimacy of payments and recoupment claims in the Medicaid program, provided there is ample opportunity to rebut a determination of overpayment. It was further decided that the Department may place the burden on the provider to demonstrate that the Department's calculations are incorrect.

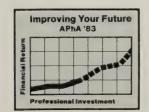
At all times the onus is on the physician to prove entitlement to welfare funds, the court decided. Further, the Department's presumption that the percentage of error is the same both for the audited and unaudited claims does not shift the burden of proof. It is not unreasonable to require a physician participating in welfare programs to be familiar with the rules and regulations, as prerequisites in conducting a 100% audit, nor is it arbitrary and capricious to require a physician to bear the cost of conducting a 100% audit to rebut a departmental finding of overpayment.

The physician does indeed have an opportunity to rebut findings of overpayment. Further, the rebuttal procedures involved do not shift the burden of proof or violate due process requirements.

# Implications for Pharmacists

There does not appear to be any material differences between the results of this case and what might be expected if a pharmacist were involved in the same situation. Federal and state program requirements are effectively identical, and the public has the same interest in seeing that government funds are used correctly.

Pharmacists are required to keep detailed records, and post-payment audits are used also to safeguard against overpayment. Sampling and extrapolation are inherent in procedures used to audit pharmacy records too. It is reasonable, then, to expect identical Department procedures and court findings in the case of a pharmacy provider. In short, the burden is on the pharmacist at all times to prove entitlement to welfare funds.



130th Annual Meeting American Pharmaceutical Association April 9-14, 1983 New Orleans, Louisiana



Under the new Elder-Care symbol, Parke-Davis will soon make available to the nation's 55,000 pharmacies display materials to draw customer attention to pharmacists' expertise in answering questions about medications.

Parke-Davis will also provide the pharmacist with a publication, "As We Grow Older," that tells customers about the aging process and gives older patients and those who take care of them some guidelines for discussing their use of medications freely with physicians and pharmacists. The booklet stresses the importance of written information. Attached is a form that allows patients to keep track of all their medications.

The Elder-Care program evolved from the Elder-Health and Elder-Ed Programs developed by the University of Maryland School of Pharmacy and endorsed by the MPhA.

In introducing Elder-Care, Joseph C. Dilger, director of professional relations for Parke-Davis, said, "The elderly are an important segment of the population and one that has special medication information needs that, with a few notable exceptions, most of us have been slow to accommodate."

The aging often cannot see or hear well. Failing eyesight makes it difficult to read patient labeling on medication containers and patient package inserts. Poor hearing inhibits understanding of verbal directions for safe and effective drug use.

Memory loss is another factor prevalent in old age that reduces the patient's ability to comply with complex drug instructions, Dilger explained. Social isolation adds to the difficulty older people have in communicating their dilemma.

"Living alone tends to make them shy," he said. "This makes it hard for them to ask physicians and pharmacists for help. We think that once the Elder-Care symbol becomes familiar to customers, it will stimulate the much-needed two-way communication flow between patient and health care professional.

"With over-65's accounting for only 10 percent of the population and more than 25 percent of all pharmacy sales, pharmacists have considerable reason from both a business and humanitarian standpoint to spend more time in caring for the needs of their elderly patients."

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# The Professional Experience Program The Preceptor

by Marvin L. Oed, Pharm. B.S., P.D.
Clinical Assistant Professor and Director, Professional Experience Program
Department of Pharmacy Practice and Administrative Sciences
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In June of 1972, the University of Maryland School of Pharmacy graduated the first class of pharmacy students in the history of pharmacy education in the United States to complete all practical experience requirements for licensure within the curriculum of a school of pharmacy. The Professional Experience Program (PEP) became the role model for similar programs throughout the country. The preceptor is the key to the efficiency and effectiveness of the Professional Experience Program which provides much more than just the work experience previously required for licensure examination.

# **PEP Goals**

- 1). To provide the training needed to develop in each student (extern) the professional judgement, competencies and skills necessary to provide quality pharmacy service within a broad range of health care environments.
  - 2). To evaluate practice behavior.
- 3). To assess practice performance and assure entry level competency.

# **PEP Objectives**

- 1). To provide experiential training in a variety of practice settings.
- 2). To establish a relationship between Preceptor and Extern such that optimal learning takes place under practice conditions. This relationship is more that of student/teacher than employee/employer.
- 3). To promote the integration of theoretical knowledge and skills acquired in the academic program with professional practice for the benefit of the patient.
- 4). To identify extern strengths and weaknesses and allow for the correction of the latter.
- 5). To meet all experience requirements for licensure examination within the framework of the school curriculum.

# Administration

The administration of the Professional Experience Program is the responsibility of the Department of Pharmacy Practice and Administrative Science (Peter P. Lamy, Ph.D., Chairman). However, the day to day teaching and supervision of the extern is the responsibility of the preceptor faculty. Community (Chain and Independent) and Institutional (hospital, nursing home, other), practices are represented. Special Studies preceptors are approved on an as needed basis for unique experiences.

It should be emphasized that although there are guidelines and requirements for the pharmacy it is the pharmacist not the pharmacy that is selected and appointed.

# Design

Each student is required to participate in six fourweek rotations.

**Required Core:** One Institutional Pharmacy

Rotation

One Community Pharmacy

Rotation

One Patient Care Rotation

Electives: (three required)

Community Rotation
Institutional Rotation
Advanced Patient Care\*

Special Studies\*

# **Preceptor Selection**

Practitioners find their way into the program in a number of ways. Those who express interest or are recommended are asked to make formal application in writing and are provided information and copies of the preceptor and pharmacy guidelines. To assure good standing in the professional community the Maryland State Pharmaceutical Association, The Maryland Society of Hospital Pharmacists and the Maryland Board of Pharmacy are contacted for their recommendations. Recommendations are also sought from current active preceptors.

<sup>\*</sup> Advanced patient care and special studies rotations provide non-traditional experiences and are limited to exception students. The extern is limited to a maximum of one such rotation.

A member of the PEP staff then visits the candidate to assess the facility and answer specific questions. Emphasis is placed on the fact that this is an educational program and the preceptor has specific teaching responsibilities. The pharmacist most suited to this activity is one who enjoys teaching and is willing to devote time to see that the student learns why as well as how things are done. It is at this point those who were under the misconception that PEP provides free labor may decide to withdraw their application. After favorable reports from each of these sources the candidates Personal Profile and Pharmacy Profile are reviewed by the PEP staff. A formal orientation program is held for all interested parties. At this time the program is reviewed in detail.

After the orientation the PEP staff reviews each application and makes a recommendation to the department chairman for submission to the dean recommending for or against appointment. Additional factors taken into consideration before recommendation is made on each candidate is:

- 1) Personal interview
- 2) Understanding of program objectives
- 3) Location and type of pharmacy
- 4) Quality of Practice

Those found acceptable are appointed to the faculty of the School of Pharmacy at the rank of Clinical Instructor in the Department of Pharmacy Practice and Administrative Science.

# The Preceptor and the Extern

The vital role of the preceptor in the total educational sequence of the pharmacy student cannot be overemphasized.

No doubt the most difficult undertaking the preceptor faces is that of assuming the role of a teacher and communicating with the extern. In a relatively short time the preceptor must get to know the extern; his/her strengths and weaknesses, temperament and professional skill. Unlike the preceptors' counterpart, the inhouse faculty member, the preceptor works with the student in a one to one relationship. This requires that the preceptor be more than just a teacher or just a pharmacist.

Mutual respect is essential for a good relationship. The preceptor must recognize that the extern's greatest deficiency is inexperience and that the college has chosen him/her to correct this deficiency. Each student is provided information concerning the available preceptors. Assignments are made to specific preceptors from a list of preferences provided by the extern. This assures maximum flexibility in meeting student needs. Thus a student may:

- 1) design a program meeting individual needs
- 2) test specific career goals
- 3) address specific weaknesses or desires
- 4) experience non-traditional areas

A prudent selection of preceptors allows a variety of

experiences meeting specific individual needs and produces a well rounded pharmacist of entry level capability able to practice in a variety of setting.

# The Challenge

The duties of the extern must be matched with his/ her educational level and prior work experience. Very broadly the externship levels can be divided into beginning, intermediate and advanced levels. The beginning level is largely technical and not based on the integration of previously learned information about drug products or therapeutics. Mastery of these tasks early enable the extern to progress more rapidly in the higher areas of performance and learning. The Intermediate level adds duties that are professional in nature and are based on a prerequisite knowledge of drug products. The Integration of previously acquired knowledge with practice occurs at this level. Advanced activities occur following completion of the required courses in pharmacology, therapeutics and dispensing. At this level the extern should be introduced to and allowed to perform all tasks of the pharmacist; including those requiring professional judgement.

Care must be exercised by the preceptor to avoid assigning complex tasks to the beginning inexperienced extern, or conversely, impeding the progress of the more experienced intermediate or advanced extern. Each extern's educational level, prior experience and ability will affect his/her progress from simple to complex and from technical to professional tasks.

Since much learning occurs by repetition and the responsibilities of most pharmacists include the performance of or supervision of technical tasks these skills are expected to be performed at all levels.

# **Extern Evaluation**

This most difficult task is necessary if the program is to attain the stated goals and objectives. Two separate and distinct areas are assessed:

#### 1) Performance

The preceptor must assess performance in work habits, problem solving, people orientation and progress using criteria related to maturity, effort and responsibility rather than competency to perform a task.

# 2) Competency

In this area the preceptor indicates the competency of the extern to perform tasks compared to that expected of an entry level pharmacist. This assessment also identifies areas of weakness which are addressed in future rotations.

# **Preceptor Rewards**

Each preceptor is a full member (no vote) or the faculty of the school of pharmacy. The initial appointment is usually at the level of clinical instructor. Promotion through ranks parallel to the in-house faculty is

available to recognize outstanding effort to the school and program over a number of years. Teaching materials and some reference materials are provided. The preceptor receives an honorarium for each student contact month.

**Summary** 

- 1. Academic credit is given the student in lieu of pay, therefore, the preceptor is freed of any financial burden.
- 2. The extern is able to concentrate his/her efforts on learning since he/she is an unpaid extra and not part of the staff.
- 3. The program is structured by the School of Pharmacy in cooperation with the Maryland Board of Pharmacy to assure a complete comprehensive and effective program.
- 4. The extern is exposed to a variety of practice experiences and is relieved of the task of finding a job.
- 5. Exposure to the college affords the preceptor the opportunity to improve him/her self both intellectually and professionally.
- 6. The community benefits from externs who are trained by a select group of pharmacists acting as role models.
- 7. These role models can then be emulated once the extern begins practice.

# Preceptors' Goal

The goal is to have each preceptor, through hindsight and experience, guide the extern in the application of academic knowledge into actual practice.

# Quality Assurance

The Department of Pharmacy Practice and Administrative Sciences assures the quality of the Professional Experience Program in general and the preceptor in particular.

- (1) The extern evaluates both the preceptor and the rotation as the completion of each cycle. This is reviewed by a PEP staff member. If clarification or correction is deemed necessary, appropriate action is taken.
- (2) The preceptor is visited on site each month he/ she is assigned an extern.
- (3) Preceptors are expected to attend regular meetings in addition to the orientation meeting.
- (4) Periodic mailings addressing specific perceived needs are issued on an as-needed basis.
- (5) The Board of Pharmacy through its own PEP Committee as well as its Coordinating Committee representative is an additional source of information.

Thus the process is not only an evaluation of past performance but a continuing effort to reinforce concepts, introduce new processes, clarify issues and in general maintain communication between the staff and the preceptor faculty.

# Professional Experience Program Preceptor Requirements and Guidelines

- 1. Must accept the responsibility for the guidance and training of the extern and be able to devote sufficient time to instruction.
- 2. Must reflect in appearance, attitude and performance the best traditions of professional practice.
- 3. Must be involved in patient care by promoting professional services and personal communications with patients and other health professionals.
- 4. Must maintain professional competency by attending CE programs, reading of scientific and professional journals and/or other appropriate means.
- 5. Must be licensed in the state of practice and have engaged in the practice of pharmacy for the previous two years.
- 6. Must attend scheduled preceptor meetings on a regular basis.
- 7. Must belong to and participate in local, state and/or national professional organizations.
- 8. Must not reimburse the extern for services rendered either directly or indirectly.
- 9. Must not have been involved in any State Board violation for which a penalty has been imposed within the last five years.
- 10. Must insure that the minimum training time requirement of 160 hours be fulfilled during the rotation period.
- 11. Must supervise directly the extern's program at least 75% of the time.
- 12. Should always explain in detail what is expected of an extern in way of appearance, attitude and method of practice and insure that all professional personnel adhere to these requirements.
- 13. Should insist on communication with the extern at all times and be willing to discuss any aspect of professional practice that doesn't violate the preceptor's responsibility to the preceptor's employer or employees.
- 14. Should be aware at all times that the preceptor's role is not simply that of a teacher but also that of a co-worker in the extern/preceptor relationship.
- 15. Should afford the extern the respect and patience needed for an optimal learning experience.
- 16. Should offer criticism in a constructive and sympathetic manner and convey this criticism privately.
- 17. Should not impose personal beliefs on or dis-

- cuss personal matters with the extern unless they relate to professional practice.
- 18. Should not enter into any personal relationship with an extern which might appear to jeopardize the objectivity of the teaching experience.

# Professional Experience Program Requirements and Guidelines for Pharmacies

#### General

# The Pharmacy:

- 1. Must be free of any owner-connected State Board violation for which a penalty has been imposed within the last five years.
- 2. Must meet the standards set by all governmental agencies, including the State Board of Pharmacy, Drug Enforcement Agency, and the Food and Drug Administration.
- 3. Must be clean, reflect a professional image and be maintained in such a manner as to permit maximum efficiency and minimum opportunity for error.
- 4. Must have a professional library which shall include not only those volumes required by law and/or regulation but also representative current texts on pharmacy, pharmacology, toxicology and current applicable professional periodicals.
- 5. Must utilize a patient record system for all or some of its patrons. Waiver of this requirement will be considered only under special circumstances.
- 6. Must make provision for special drug storage, including for those drugs requiring security, refrigeration or special handling. Drugs must not be stored in areas of excessive heat. The drug storage area should preferably be air-conditioned.
- 7. Must adhere to all official specification for the packaging or repackaging of drugs.
- 8. Must use distilled water or a more suitable diluent when preparing or reconstituting all oral products. Ophthalmic, nasal, or otic solutions must be prepared with sterile distilled water or other sterile vehicles.
- 9. Should have a waiting area for patients and an area set aside for patient consultation.
- 10. Should utilize Millipore<sup>®</sup> or equivalent filtration equipment for filtration of all small volume ENT solutions.
- 11. Should possess telephone facilities which permit transcription of messages with a minimum of extraneous interference.
- 12. Should adhere to standardized policies of drug purchasing which will assure drug product quality and equivalency when drug products are interchanged.

# Community Pharmacy

# The Pharmacy:

- 1. Must provide a sufficiently wide range of services to insure a broad scope of experience for the extern. Such services include:
  - a. The dispensing of all types of prescriptions including extemporaneous compounding
  - b. The provision of a representative line of non-prescription drugs
  - c. The provision of related health devices and equipment (parapharmaceutics)
  - d. The provision of appropriate counselling and monitoring of the patient in the use of these products and/or devices.
- 2. Should have facilities and services to meet expanded public health responsibilities.

# **Institutional Pharmacy**

# The Pharmacy:

- Must be associated with a hospital accredited by the Joint Commission on Accreditation of Hospitals.
- Must meet all requirements of the most current section of pharmaceutical services, Joint Commission on Accreditation of Hospitals, the "Statements of the Competencies Required in Institutional Pharmacy Practice" (ASHP/AACP, 1975) and the Minimum Standards for Pharmacies in Institutions (ASHP, 1977).
- 3. Must have adequate facilities to carry out a broad scope of services, such as:
  - a. Departmental Administration
  - b. Ambulatory Dispensing & Control
  - c. Inpatient Drug Distribution & Control
  - d. Formulation, Preparation & Control of Sterile and Non-Sterile Dosage Forms
  - e. Drug Information Services
  - f. Clinical Services in Patient Care Areas
  - g. Quality Assurance Programs
- 4. Should have facilities to serve both inpatients and ambulatory patients.

  (Note: Only these prescriptions shall be dis-
  - (Note: Only those prescriptions shall be dispensed in the Ambulatory Pharmacy which have originated within the hospital, and are intended for the hospital's own patients.)
- 5. Should receive a direct copy of the physician's order for all inpatients.

Any pharmacist who has an interest in students, a desire to teach the practice of pharmacy and meets the program guidelines/requirements is invited to contact the Director of the Professional Experience Program, Department of Pharmacy Practice and Administrative Sciences, University of Maryland School of Pharmacy, 20 North Pine Street, Baltimore, Maryland 21201.

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Upjohn service to pharmacists has always been excellent. We were the first to provide free nationwide WATS phone service. Now it can be even better than that. Our new D.O.E.S system, Direct Order Entry System. does it

With a push-button phone\* you can order just by pushing the right buttons

Our electronic computer lady helps you, and the average order can be placed in one minute—faster than voice communications. Your order is then relayed in minutes to the distribution center nearest you.

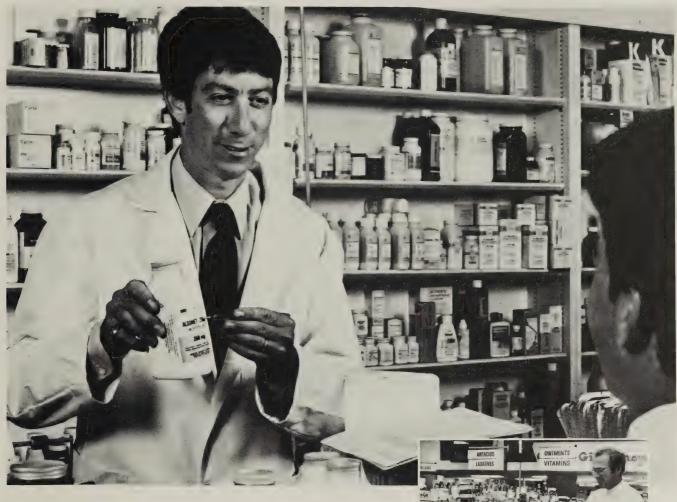
Best of all, you can place your order any time of the day or night—seven days a week—before, during, or after hours-at your convenience

Faster service, more convenience, greater accuracy—good reasons to stay in touch with Upjohn.



\* 1982. The Upjohn Company Kalamazoo, MI 49001 \*Dial phones may be used with an adapter

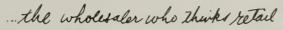
# "When I lose track of my inventory, I lose track of my profits... so I rely on The Drug House."



We realize that you, as an independent businessman, need a wholesaler who understands your *total* needs. Not just product, but advertising, inventory control, and management assistance. We're staffed with experts who can help your business grow. Rely on us.

Our Direct Order Entry System cuts order time to a split second operation. Simply press the buttons on the small hand-held module and your order is recorded in the unit's electronic memory. Then, just dial the phone and your order is quickly transmitted into our centralized computer. A 400 item order can be transmitted in under 60 seconds. We also supply price stickers customized with your retail prices.

Call us today and get the services of a systems experts...and a full line wholesaler all in one!





# THE DRUG HOUSE, INC.

An Alco Standard Company

Philadelphia Division (215) 223-9000 Ed Helfrich Harrisburg Division (717) 236-9071 John Earlen Baltimore Division (301) 467-2780 Tom Johnson Johnstown Division (814) 288-5702 Neil Smith

# If our new Order Entry System doesn't save you time and money within 60 days, you don't owe us a dime for the system.

- Order 50% Faster
- Better Stock Condition
- Better Pricing Information



- Place Orders In 60-Seconds
- Item and Shelf Labels
- Complete Pricing and Product Information

District Wholesale Drug Corp.

7721 Polk Street Landover, MD 20785 (301) 322-1100

Loewy Drug Co. 6801 Quad Avenue Baltimore, MD 21237 (301) 485-8100 Divisions of



Spectro Industries, Inc.

Jenkintown Plaza Jenkintown, PA. 19046 (215) 885-3676

# The Pharmacist and the Elderly Patient

Do They Speak the Same Language

March 13, 1983 Pikesville Hilton Inn



**Program Objectives** 

At the conclusion of this program, the participant will be able to interact more effectively with elderly patients by:

- a. Recognizing interpersonal differences within the elderly population.
- b. Identifying problems of elderly patients; eg. communication with physicians and pharmacists, taking their drugs correctly, and growing older.
- c. Identifying those patients most likely to present with problems.
- d. Identifying problems pharmacists have communicating with the elderly and understanding the specific needs of their elderly patients.
- e. Identifying specific barriers and facilitators of communication between pharmacists, physicians and elderly patients.

Symposium Chairman: Peter P. Lamy, Ph.D., F.A.G.S. David A. Banta, M.A., C.A.E.

Program Chairman: Donald O. Fedder, Pharm.B.S., Dr. P.H.

Co-Chairman Robert S. Beardsley, Ph.D.

Co-Sponsored by the Maryland Pharmaceutical Association

This program is supported, in part, by an educational grant of Parke Davis, a division of the Warner Lambert Company.

# **Faculty**

Peter P. Lamy, Ph.D., F.A.G.S. is Chairman and Professor of the Department of Pharmacy Practice and Administrative Science and is Director of the Center for the Study of Pharmacy and Therapeutics for the Elderly, School of Pharmacy, University of Maryland.

Donald O. Fedder, Pharm.B.S., Dr. P.H. is Assistant Professor and Director of Community Pharmacy Programs, University of Maryland and is Director of the Pharmacy High Blood Pressure Program of Maryland.

Louis L. Kaplan, Ph.D., is a retired educator and past Chairman of the University of Maryland Board of Regents. William Hazzard, M.D. is Professor and Associate Director, the Department of Medicine; Johns Hopkins University and specializes in Geriatric Medicine.

Robert S. Beardsley, Ph.D. is Associate Professor and Associate Director of the Center for the Study of Pharmacy and Therapeutics for the Elderly, School of Pharmacy, University of Maryland.

Arthur Flemming, Ph.D. is President, National Council on Aging and is past Secretary, Department of Health, Education and Welfare; past Commissioner, Administration on Aging; and past Chairman, U.S. Civil Rights Commission.

Michael Weintraub, M.D. is Associate Professor in the Department of Pharmacology and Therapeutics, University of Rochester, School of Medicine.

# The Lilly Digest—Then and Now

An idea was born 50 years ago . . .

They were difficult times—some said the worst they had ever seen—and the year, 1932, held little promise, little hope for many depression-racked Americans. The depths of an era characterized by corner apple sellers, rusting equipment, and long breadlines were still not plumbed. Large corporations, and small businesses alike were struggling for their very survival, and the outlook was bleak.

Somehow, in the face of failure and despair, the country reached deeply and drew on a stubborn will to continue—to weather the storm. Encouragement came from many sources, but tangible support was far less evident.

Retail pharmacy was hit hard. Over 60,000 pharmacists owned their own businesses, and the ranks thinned as, one after another, they closed their doors. And with each shuttering, a number of Americans were denied access to the pharmaceutical preparations on which they depended.

Mr. Eli Lilly, himself a pharmacist and president of Eli Lilly and Company, a manufacturer of pharmaceuticals, was alarmed by the catastrophe confronting retail pharmacists and decided to do something about it. He rightly concluded that pharmacy was the final step in the supply of therapy to patients and that, without pharmacy services, the well-being of Americans, at a time when all their strength was needed, would suffer. But, what to do?

Pharmacists were businessmen, Mr. Lilly declared, and this was the discipline on which success or failure depended. Why can't we offer managerial assistance to pharmacists so that they may better understand and solve their problems? An idea was born!

Mr. Lilly contacted his alma mater, the Philadelphia College of Pharmacy and Science, and talked with a young, bright pharmacy professor, Dr. Paul C. Olsen. Dr. Olsen quickly saw the value of Mr. Lilly's plan, and the idea moved closer to action.

Dr. Olsen analyzed 271 pharmacy financial statements, and the pharmacists who were the recipients of his advice were indeed helped. The idea then occurred to publish the results of these analyses so that the thousands of pharmacists who did not participate in the

program could use the report to manage their pharmacies more efficiently. The *Lilly Digest* became a reality!

Throughout the depression, World War II, and the economic swings that followed, the *Lilly Digest* continued to be published. Now, half a century later, it is larger and more complex, perhaps in keeping with the expanding nature of the profession it reflects. However, its primary objective remains unchanged—to assist community pharmacy owners in the management of their businesses.

The individual analyses provided to each pharmacist who submits data have also grown and are a useful review of the business year. Through comparisons with the averages of other similar pharmacies, managers can better understand their operations . . . yes, the idea born 50 years ago has stood the test of time.

Many changes are seen in the pages of the *Lilly Digest*. The emergence and blossoming of chain pharmacies, the dramatic growth of independents, the remarkable and lasting strength of the prescription department, the virtual elimination of fountains, and the dominance of open shelving are major shifts that have occurred during the past five decades.

Yet, the objective established 50 years ago for the first Lilly Digest still applies to the environment for retail pharmacy practice—its use as a comparative reference by drugstore management to improve profitability. To meet this objective, the Digest had to be organized in such a manner as to allow for the identification of specific areas within the pharmacy's operation and to provide benchmarks for comparison so that the management decision-making process would, in fact, be supported by improved profitability. A quote from the 1932 Lilly Digest embodies this idea: "it points out the common weakness of drugstore management and offers solutions to some of the many perplexing problems that baffle endeavors to do business at a profit."

The Lilly Digest was then, and is now, a cross section of the independent retail pharmacies in the United States, free from bias or selfish motive. It is an account of actual drugstore operations and, when used on an individual comparative basis, will provide management with data that are both beneficial and inspirational. As was said a half century ago: "much has been written

about the things a retail druggist needs to do to increase the profits of his store. Anyone will agree that a druggist who was capable of earning extraordinary profits in 1932 is capable of earning extraordinary profits in any year." What was suggested by this statement is a worthwhile credo for retail pharmacy managers today—it is vital to the success of the business that management employ the necessary means to evaluate their operation objectively so that the greatest profit performance can be realized. The *Lilly Digest* has continued to work toward being one tool to use in this evaluation process.

It is astounding to look at the operating figures gathered for pharmacies during 1932 and to compare them with today's statistics. Those readers who remember the "difficult years" and those who began practice long after the great depression will find them interesting!

Selected operating figures for pharmacies reporting to the *Lilly Digest* in 1932 and 1982 are presented in Table 1. Since prescription department statistics were not collected until 1938, the data relevant to this phase of pharmacy operations will be discussed on the basis of information presented in Table 2.

Total sales showed a 19-fold increase over the 50year period (Table 1). It is particularly interesting to note that the figures for cost of goods sold and gross margin, as a percent of sales, are virtually the same in 1982 as in 1932. Total expense percentages were also quite similar although somewhat higher in 1982, with the result that net profit is lower in the current year. Within the total expense category, miscellaneous operating expenses were higher as a percent of sales and more than offset the decline in total wages and rent. This may be explained partly by the fact that business today is more complex and the typical drugstore operation is more sophisticated than it was five decades ago. Inventory turnover rate and inventory at cost figures improved significantly over the period, perhaps because of improved managerial expertise as well as the growth and development of more efficient merchandise distribution systems.

That inflation is a real force to reckon with can be shown by these statistics: It takes \$7.00 today to purchase what one dollar purchased in 1932. In other words, 1982 dollars represent only about 14 cents of 1932 dollar purchasing power.

Table 2 indicates that the prescription department has grown in influence within the average Lilly Digest pharmacy over the period (from 12.4% of sales to 54.6%). The data suggest that stores in the late thirties were essentially merchandise-oriented operations, whereas those of recent times have depended heavily on the prescription department to sustain the business. Further review of the information in Table 2 reveals that the number of prescriptions dispensed increased more than six times over this period and the average prescription charge rose about ten times, with the result

that the total prescription revenue is about 63 times greater than in 1938.

Yes, what emerged from an idea 50 years ago has evolved into a publication that serves the pharmacy profession as an effective management decision-making tool. The practice of pharmacy and the *Lilly Digest* have expanded to meet the growing needs of the public and professionals. The pharmacist's continued participation in serving the health needs of Americans is a certainty and the availability of the *Lilly Digest* as a resource for the business management needs of the practicing pharmacist has been and will continue to be a goal of Eli Lilly and Company.

Table 1
Selected Operating Data for Lilly Digest Pharmacies
1932/1982

	1932 (271 Pharmacies)	1982 (1,750 Pharmacies)
Total sales Cost of goods sold	\$ 23,108 —100.0% 15,153 — 65.6%	\$ 439,133 —100.0% 288,421 — 65.7%
Gross margin	\$ 7,955 — 34.4%	\$ 150,712 — 34.3%
Total wage package Rent Miscellaneous operating costs	\$ 4,196 — 18.1% 986 — 4.3% 1,841 — 8.0%	\$ 78,672 — 17.9% 10,886 — 2.5% 47,181 — 10.7%
Total expenses	\$ 7,023 — 30.4%	\$ 136,739 — 31.1%
Net profit	\$ 932 — 4.0%	\$ 13,973 — 3.2%
Inventory turnover rate Inventory at cost	2.9 times \$ 5,285 — 22.9%	4.3 times \$ 68,768 — 15.7%

TABLE 2
Prescription Department Comparison
1938/1982

1938 (542 Pharmacies)	(	1982 1,750 Pharmacies)
\$ 30,369 —100.0%	\$	439,133 —100.0%
\$ 3,767 — 12.4%	\$	239,561 — 54.6%
\$ 26,602 — 87.6%	\$	199,572 — 45.4%
4,232		27,225
\$ 0.89		\$ 8.80
\$	(542 Pharmacies) \$ 30,369 —100.0% \$ 3,767 — 12.4% \$ 26,602 — 87.6% 4,232	(542 Pharmacies) ( \$ 30,369 —100.0% \$ \$ 3,767 — 12.4% \$ \$ 26,602 — 87.6% \$ 4,232

# Pharmacy Art Prints Available

The Association has commissioned a limited set of art prints depicting historical pharmacy sites in Maryland. These prints by noted artist Marian Quinn are each hand numbered and signed by the artist. The prints are available from the Association office at \$7.50 each or four for \$25.00. They are ink line drawings that are certain to be collectors items in the future. Order yours today.

Averages per pharmacy	1981 SOUTH ATLANTIC STATES (195 Pharmacies)	1980 SOUTH ATLANTIC STATES (255 Pharmacies)	1981 UNITED STATES Average (1,750 Pharmacies)
SALES			
Prescription Other	\$ 229,611— 57.4% 170,220— 42.6%	57.1% 42.9%	54.6% 45.4%
TOTAL SALES	\$ 399,831—100.0%	\$ 400,373—100.0%	\$ 439,133—100.0%
COST OF GOODS SOLD	258,976— 64.8%	64.7%	65.7%
GROSS MARGIN	\$ 140,855— 35.2%	35.3%	34.3%
EXPENSES Proprietor's or manager's salary Employees' wages Rent Miscellaneous expenses TOTAL EXPENSES NET PROFIT (before taxes) TOTAL INCOME OF SELF-EMPLOYED PROPRIETOR (before taxes on income and profit) VALUE OF INVENTORY AS A PERCENT OF SALES Prescription Other TOTAL	\$ 28,310— 7.1% 46,767— 11.7%2 8,766— 2.2% 42,941— 10.7% \$ 126,784— 31.7% \$ 14,071— 3.5% \$ 42,381— 10.6% \$ 24,689— 10.8% 35,669— 21.0% \$ 60,358— 15.1%	6.5% 12.6% 2.2% 10.1% 31.4% 3.9%  10.4%	6.4% 11.5% 2.5% 10.7% 31.1% 3.2% 9.6% 11.2% 21.0% \$ 68.768— 15.7%
ANNUAL RATE OF TURNOVER OF INVENTORY	4.4 times	4.2 times	4.3 times
NUMBER OF PRESCRIPTIONS DISPENSED New Renewed	12,671— 46.7% 14,474— 53.3%	47.0% 53.0%	48.6% 51.4%
TOTAL	27,145—100.0%	100%	27,225—100.0%
PRESCRIPTION CHARGE	\$8.46	\$7.51	\$8.80
NUMBER OF HOURS PER WEEK Pharmacy was open Worked by proprietor Worked by employed pharmacist(s)	61 hours 47 hours 37 hours	62 hours 48 hours 38 hours	62 hours 48 hours 39 hours

\* Source: 1982 Lilly Digest



# Current trends in pharmacy operations

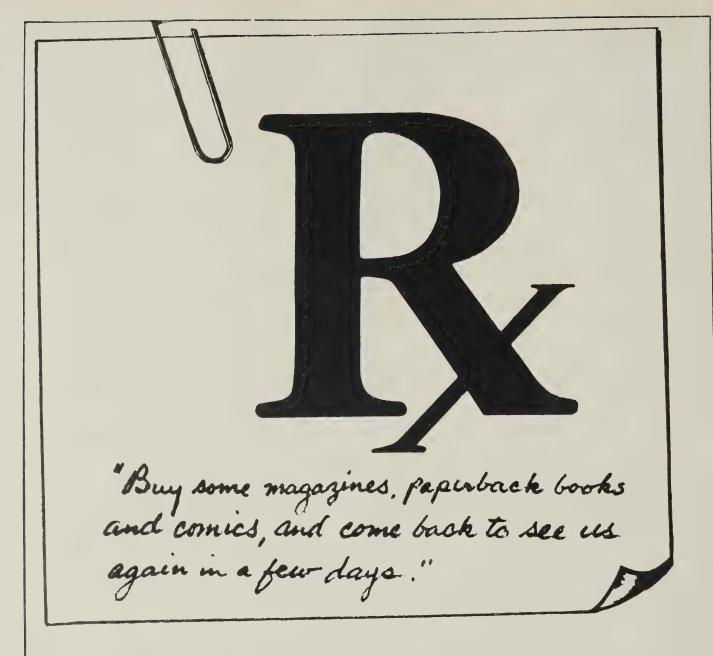
Averages per Pharmacy	1981 1,750 Pharmacies	1980 2,070 Pharmacies	Amount and Percent of Change
Total sales	\$439,133-100.0%	\$416,161-100.0%	+\$22,972- 5.5%
Cost of goods sold	288,421- 65.7%	273,390- 65.7%	+\$15,031- 5.5%
Gross margin		\$142,771 — 34.3%	+\$ 7,941- 5.6%
Expenses			
Proprietor's or manager's salary Employees' wages Rent Heat, light, and power Accounting, legal, and other professional fees Taxes (except on buildings, income, and profit) and licenses Insurance (except on buildings) Interest paid. Repairs Delivery Advertising. Depreciation (except on buildings) Bad debts charged off Telephone	\$ 27,983 - 6.4% 50,689 - 11.5% 10,886 - 2.5% 3,758 - 0.9% 2,079 - 0.5% 6,706 - 1.5% 4,640 - 1.1% 3,612 - 0.8% % 1,974 - 0.4% % 2,206 - 0.5% - 4,745 - 1.1% 3,886 - 0.9% 636 - 0.1% 1,588 - 0.4%	\$ 26,001 — 6.2% 49,128 — 11.8% 10,127 — 2.4% 3,682 — 0.9% 1,966 — 0.5% 6,254 — 1.5% 4,539 — 1.1% 2,901 — 0.7% % 1,503 — 0.4% 1,984 — 0.5% — 4,590 — 1.1% 3,591 — 0.9% 556 — 0.1% 1,463 — 0.3%	+\$ 1,982— 7.6% +\$ 1,561— 3.2% +\$ 759— 7.5% +\$ 76— 2.1% +\$ 113— 5.7% +\$ 452— 7.2% +\$ 101— 2.2% +\$ 711—24.5% +\$ 471—31.3% +\$ 222—11.2% +\$ 155— 3.4% +\$ 295— 8.2% +\$ 80—14.4% +\$ 125— 8.5%
Miscellaneous	11,351— 2.5%	10,702- 2.6%	+\$ 649- 6.1%
Total expenses	\$136,739- 31.1%	\$128,987- 31.0%	+\$ 7,752- 6.0%
Net profit (before taxes)	\$ 13,973— 3.2%	\$ 13,784— 3.3%	+\$ 189— 1.4%
Total income of self-employed proprietor			
(before taxes on income and profits)	\$ 41,956— 9.6%	\$ 39,785— 9.5%	+\$ 2,171— 5.5%
Value of inventory at cost	\$ 68,768— 15.7%	\$ 67,020- 16.1%	+\$ 1,748— 2.6%
Annual rate of turnover of inventory	4.3 times	4.2 times	
Hours per week pharmacy was open	62	63	- 1

NOTE: These national averages are presented to give a composite picture of the average LILLY DIGEST pharmacy. Comparisons for analysis should be based on the operations of pharmacies of comparable sales and prescription size which appear in one of the 31 arrangements in the "Heart of the LILLY DIGEST."

# The First ever Regional Pharmacy Association Convention

Delaware and Washington D.C. Pharmacists join the M.Ph.A. June 26th-30th in Ocean City, Maryland for our first Regional Pharmacy convention. Plan now to make tracks to Ocean City for this historic event!





That's the prescription you can fill again and again for your customers if you have a fully stocked magazine department.

Reading is a tonic for everyone. SELLING the reading material is our specialty. And it should be yours because turnover is the name of your game and nothing you sell turns over faster or more profitably than periodicals.

If you're not now offering periodicals to your customers, you should be. Just ask us how profitable it can be.

And if you do have a magazine department, chances are your operation has outgrown it and it should be expanded.

Get on the bandwagon. Call Phil Appel today at:
The Maryland News Distributing Co.
(301) 233-4545

# **TAXING DATES**

Following are due dates for federal and state taxes that most affect you. Taxes that are due four or more times during the year are identified by abbreviations explained below the chart. Note that if a tax is due on a weekend or holiday, the due date is advanced to the next business day, causing some taxes due the last of the month to be payable early the next month.

#### JANUARY 1983

Wednesday January 5 FD(a)
Monday January 17 FI
Friday January 21 ST

Monday January 31 FQ, FU, SQ, SU

#### **FEBRUARY 1983**

Thursday February 3 FD(a)
Tuesday February 15 FD(b), SD
Monday February 21 ST

# **MARCH 1983**

Thursday March 3 FD(a)
Tuesday March 15 FD(b), SD, SC

Calendar year corporations must file income tax return or pay 50% of unpaid taxes and file for 3 months automatic extension. Acrual basis corporations declare accrued expenses by this date (2½ months after end of taxable year).

ST

#### **APRIL 1983**

Tuesday April 5 FD(a) Friday April 15 Feder

Monday March 21

Federal and state income tax due or you must pay estimated amount due and file for 60 day extension. Interest will be paid on amount paid after April 15. State corporation tax due. 60 day extension may be requested. State personal income tax due FC/P, FI

# MAY 1983

Monday May 2 FQ, FU, FD, SQ, SU
Wednesday May 4 FD(a)
Monday May 16 FD(b), SD
Monday May 23 ST

**JUNE 1983** 

Friday June 3 FD(a) Wednesday June 15 FD(6)

/ednesday June 15 FD(6), FC/P, SC, SD, FI

Tuesday June 21 S

#### **JULY 1983**

Wednesday July 6 FD(a) Thursday July 21 ST

#### **AUGUST 1983**

Monday August 1 FD, FU, FD, SQ, SU
Wednesday August 3 FD(a)
Monday August 15 FD(b), SD
Monday August 22 ST

## SEPTEMBER 1983

Tuesday September 6

Thursday September 15 FD(b), FC/P, FI, SD, SC

Wednesday September 21 ST

# OCTOBER 1983

Wednesday October 5 FD(a) Friday October 21 ST

Monday October 31 FQ, FU, FD, SQ, SU

# **NOVEMBER 1983**

Thursday November 3 FD(a)
Thursday November 15 FD(b), SD
Monday November 21 ST

## **DECEMBER 1983**

Monday December 5 FD(a) Tuesday December 15 FD(b), FC/P, SC, SD

Wednesday December 21 S

FD(a) Last payment due on Federal income and social security taxes withheld during the previous month if over \$3000 was withheld. You are required to deposit the amount withheld within 3 banking days after you reach \$3000 at the end of any eighth-monthly period (these periods end on the 3rd, 7th, 11th, 15th, 19th, 22nd, 25th, and last day of the month)

FD(b) Federal income and social security taxes withheld must be deposited by this date if between \$500 and \$3000 was withheld during the

Q Federal Quarterly income and social security taxes withheld must be paid.

FU Federal Unemployment tax must be paid.

FC/P Federal estimated corporation and partnership taxes must be paid if on calendar basis (note—fiscal year corporations pay this tax on 15th day of 4th, 6th, 9th, and 12th month of their year)

Federal estimated individual tax for previous quarter due.

Federal social security and withholding tax if any due domestic workers.

ST Maryland State Sales Tax due. SO Maryland State income tax wit

Maryland State income tax withheld due for previous quarter.

Maryland State Unemployment taxes due.

SD Maryland State estimate of income tax withheld the preceeding month must be deposited.

Maryland State Estimate of corporation tax due.

23

FI FD

SU

# Help Here for Witnesses

Maryland's victims/witnesses units have joined together with representatives from the Governor's Commission on Law Enforcement, the Juvenile Services Administration, the Office of the Attorney General, the Division of Parole and Probation and the State's Attorneys' Coordinator to request the Governor of Maryland to proclaim the week of April 20–26 as Maryland's Victim Rights Week in conjunction with the National Victim Rights Week campaign.

In 1976, the Governor's Commission identified funds in its Comprehensive Plan to provide services to victims, witnesses, and jurors. Before any funds were awarded in this area, the prospective grantees completed a seven step planning process to identify problem areas in the criminal justice system within their jurisdictions involving these citizen groups.

The victim/witness assistance programs are designed to provide direct assistance to victims and witnesses. Such assistance may take a variety of forms including providing them with information about the judicial process, helping them deal with a variety of personal and financial losses that may occur as they participate in the process, and basically insuring their fair and just treatment.

Victim/witness assistance units provide such services as: notification and case information, transportation, child care, employer intervention, reception and waiting facilities, escort services, emergency funds, property return, restitution and public information.

Each unit has established a system which can best serve the needs of the citizens in its jurisdiction. Setting up a functional unit may seem too costly for some jurisdictions considering the current budgetary constraints presently being placed on all State's Attorney's Offices today; however, many of the services provided by the established units could be duplicated with limited expenditures such as renting or buying a telephone answering devise or establishing a volunteer service program. On the following page is a list of the operating victim/assistance units throughout Maryland. The project directors of these units have indicated their interest in aiding other offices with the set-up of a small scale unit.



# Maryland Victim/Witness Assistance Programs

Ms. Sandra Brill
Witness Information Services
State's Attorney for
Anne Arundel County
90 Cathedral Street
Annapolis, Maryland 21401
(224-7264)

Mr. Francis Perkowski Baltimore City State's Attorney's Office Victim/Witness Unit 206 Courthouse Baltimore, Maryland 21201 (396-1897)

Mrs. Virginia Mahoney
Baltimore County State's
Attorney's Office
Victim/Witness Unit
Old Courthouse, Room 202
Towson, Maryland 21204
(494-2580)

Ms. Carol James Howard County Victim/Witness Program 3725 Park Avenue Ellicott City, Maryland 21043 (992-2108)

Mr. Robert Coyne Montgomery County State's Attorney's Office 50 Monroe Street P.O. Box 151 Rockville, Maryland 20850 (251-7300)

Ms. Carol Hess Victim/Witness Assistance Unit Courthouse, Room 410 Upper Marlboro, Maryland 20870 (952-4830)

Ms. Ann Roecker State's Attorney's Office for St. Mary's County P.O. Box 328 Leonardtown, Maryland 20650 (475-5621)



BMPA President Frank Marinelli (left) presents Dean William J. Kinnard, Jr. (right) with a check from the Association in support of the new School of Pharmacy. In all, the BMPA has pledged \$25,000 to help equip the new School.



The Ladies Auxiliary hosted the luncheon following the Board of Trustees meeting held October 28th in the Kelly Building.



# THE DRUG HOUSE OPEN HOUSE

On October 24, 1982, The Drug House, Inc.—Calvert Division held an Open House, inviting customers and employees to tour the recently renovated facility at 901 Curtain Avenue. It also afforded an opportunity for employees, who do not ordinarily have contact with the customers, to meet them face to face. Refreshments were served and door prizes awarded to more than 200 in attendance. Grand prize winner was Mr. Harry Payne of Payne's Pharmacy, Brunswick, Md., recipient of a Micro Wave Oven.

Other winners included:

Mr. Joseph Dorsch of Voshell's Pharmacy

Mr. Al Friedman of Hammonds Lane Pharmacy

Mr. Marvin Gamerman of Rudies Pharmacy

Mr. Thomas Suter of Whiteford Pharmacy

Mr. Ed Tristani of The Apothecary Shoppe

Mr. Frank Tamberino of Highland Pharmacy



Baltimore City Police Sargeant Boston presented a program on crime protection at the BMPA meeting held October 21st in the Kelly Building.



Alumni Association President Angelo Voxakis presided over the Fall Dinner Meeting of the Association held November 14th at the Eudowood Martins.

# WILLIAM J. SKINNER

is pleased to announce that

# PAUL W. VIRTUE

a member of the bar of West Virginia and a *pharmacist* residing in Howard County was recently admitted to the Bar of Maryland and is now associated in the practice of law at the Rockville Office

# LAW OFFICES OF WILLIAM J. SKINNER

William J. Skinner David M. Thomas

22 W. Jefferson St. Rockville, MD 20850 (301) 762-3784 Bruce F. Mackler Edward J. Taggart

815 15th St., N.W. Washington, DC 20005 (202) 347-2403

JANUARY, 1983 25

# **LETTERS**





We want to thank the pharmacists across the country for their expressions of confidence and trust in our company and in the quality of our products during the recent crisis. Your support and professionalism enabled us to move quickly and effectively in the public interest. Now, we must ask for your support again.

Johnson & Johnson and McNeil Consumer Products Company are deeply saddened and outraged by the senseless killing of innocent people. No expression of sympathy or concern adequately conveys our feelings for the victims and their families. The tragic events in the Chicago area have damaged our entire society and threatened the public's confidence in the medicines they use and rely on.

Without wanting to downplay the seriousness of the seven deaths in the Chicago area, we strongly believe these incidents must not be allowed to damage public faith. If we were to abandon the TYLENOL® brand name or if we were to fail to restore public confidence in TYLENOL, we would be yielding to a new form of economic terrorism. We are determined that this will not happen.

Due to the manner in which the story unfolded, pharmacists may be seeking assurances from you in separating rumor from fact. The following are the significant facts:

- Only Extra-Strength TYLENOL capsule products were maliciously adulterated. No other TYLENOL products have been implicated.
- The tragic events were limited to the Chicago area.
- Isolated incidents reported outside of the Chicago area were found to be unrelated to the cyanide tampering with Extra-Strength TYLENOL capsules.
- The tampering did not take place at a McNeil facility. After a thorough investigation by the FDA, they have exonerated McNeil. All evidence indicates that the adulterations took place at the retail level.

Will you assist by informing your local pharmacy groups of these issues?

As health practitioners with high visibility in both the community and hospital, pharmacists will play a



major role in restoring trust and confidence not only in TYLENOL, but in all the products the consumer uses and relies on. Now more than ever, pharmacists will share the responsibility for advising patients on the purchase and consumption of nonprescription drugs.

Together we can restore the confidence of the public, not only in TYLENOL but in all nonprescription medications.

If you have any questions or if you would like to discuss this further, please call us.

Sincerely,
Barbara H. Korberly, Pharm.D.
Assistant Director
Medical Affairs
McNeil

Dear Dave.

Do drug regimen reviews performed by pharmacists meet the requirements of intermediate care facility (ICF) regulations (42 CFR 442.336(a))? This question has been asked with increasing regularity recently because of the applicability of the "Indicators" to ICF drug regimen reviews.

The Health Care Financing Administration has now officially answered the question with an emphatic Yes—pharmacist conducted reviews fully meet the requirements of the ICF regulation. HCFA's position on the subject was included in an October 21, 1982 memorandum to a Region II Associate Administrator.

In essence, HCFA is saying that nurse conducted reviews are the minimum requirement while pharmacist conducted reviews meet or exceed the requirement.

Sincerely, R. Tim Webster Executive Director ASCP



Paul Jeffries was the Moderator for the CECC program on Diabetes held November 14th at the Columbia Hilton Inn.



The Diabetes Update program featured a very popular exhibit program including the new glucose tests and insulin pumps.



Elwin Alpern (left) is congratulated as the new President of BMPA by the installing officer Charles Spigelmire (right).



The Maryland and Virginia Pharmaceutical Association's cosponsored a program on the Pharmacist's Role in OTC Counseling held November 7th. Speakers included (left to right) H. Jean C. Wises, Thomas Reinders and Philip Gerbino. Henry W. Addington (right) President of the Virginia Association helped to moderate the program.

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# **ABSTRACTS**

Excerpted from PHARMACEUTICAL TRENDS, published by the St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor and Leonard L. Naeger, Ph.D., Associate Editor

# PROPRANOLOL AND INFLAMMATORY DISEASE:

Patients with Crohn's disease were noted to have elevated levels of the beta-adrenergic blocking agent, propranolol (Inderal). Further investigation showed that the levels of this agent are also elevated in patients with other types of inflammatory disease including pneumonia, ulcerative colitis, systemic lupus erythematosus, and rheumatoid arthritis. The effect seems to be in some way associated with the erythrocyte sedimentation rate, but no explanation for this phenomenon has yet been positively identified. *Clin Pharmacokinet*, Vol. 7, #4, p. 281, 1982.

#### NICOTINE:

The level of nicotine in the plasma was determined for those who smoked pipes only, cigarettes only or both. Primary pipe smokers inhaled minimally and, as expected, their nicotine level was lower than those found for the other two groups. Pipe smoking may be safer than cigarette smoking in certain individuals. *J Am Med Assoc*, Vol. 248, #5, p. 577, 1982.

# DIHYDROCODEINE:

Many dentists have been told that dihydrocodeine is very valuable in treating dental pain. A double-blind study using the drug intravenously indicates that pain perception is actually increased as the dose of the drug increases. The authors suggest that the role of dihydrocodeine in dental pain be reassessed. Synalgos-DC contains dihydrocodeine, promethazine, aspirin, and caffeine. *Lancet*, Vol. I, #8287, p. 1425, 1982.

## SPIROMETER:

A new small digital readout spirometer has been manufactured in Great Britain. The device is said to be less expensive and more accurate than those currently in use. The spirometer is "pocket sized" and thus can be used by patients at home to monitor respiratory function. *Br Med J*, Vol. 285, #6334, p. 15, 1982.

### PRAZOCIN:

Prazocin (Minipress) blocks selectively the alphaone adrenergic receptor site. Animal studies indicate that there are such receptors in the sinus node and administration of prazocin decreases chronotropic action in this tissue. *J Pharmacol Exp Ther*, Vol. 221, #3, p. 801, 1982.

# **BETA ADRENERGIC RECEPTORS:**

Patients with failing hearts do not respond well to beta-adrenergic stimulants and investigators now feel they have an explanation for this tolerance. When studying receptor density in the normal and failing heart, researchers found that the density of beta-adrenergic receptors decreases as cardiac function deteriorates. This suggests that regulation of beta-adrenergic receptor concentration may be an importanvariable in cardiac failure. *N Engl J Med*, Vol. 307, #4 p. 205, 1982.

# CIMETIDINE-ANTACID INTERACATION:

Antacids in general are known to reduce the absorption of various drug products. Since cimetidine (Tagamet) is often used along with an antacid preparation, the plasma level of the H-2 antagonist was measured when the drug was taken alone and in conjunction with an antacid. It has been suggested that cimetidine not be used concomitantly with an antacid because the adsorptive capacity of the antacid reduces the bioavailability of the antihistamine. N Engl M Med, Vol. 307, #7, p. 400, 1982.

## **NICOTINE EXCRETION:**

Acidification of the urine will enhance the urinary excretion of basic substances, including nicotine. To see if alkalinization of the urine, and subsequent reabsorption of nicotine, might decrease the need to smoke volunteers were studied as to their smoking habits. Records of the number of cigarettes smoked per day, the puff frequency, and the puff duration were made. After administration of sodium bicarbonate to alkalinize the urine, investigator found no change in the number of cigarettes smoked, but there was a 10 to 15% reduction in the frequency and duration of the puffs. *Clin Pharmacol Ther*, Vol. 32, #2, p. 253, 1982.

# **KETOCONAZOLE:**

Ketoconazole (Nizoral) is a new antifungal agen which acts to inhibit steroid synthesis in fungal cells When gynecomastia developed in some patients receiving the drug, investigators felt it necessary to study the effect of ketoconazole on steroid synthesis in humans and animal systems. Steroid synthesis is cell culture was inhibited by the antifungal agent but there have been no reports of hypoadrenalism in clinical literature Clinicians should be aware of this possible side effect if the drug is given in high doses for long periods of time Ann Intern Med, Vol. 97, #3, p. 370, 1982.

# VITAMIN K:

Infants may experience hypoprothrombinemia due to a lack of intestinal flora which synthesize vitamin K Studies of pregnant women and neonates indicated that other mechanisms may also be involved. Vitamin K does not cross the placental barrier as well as originally thought and neonates seem to have a relative deficiency in the binding lipoprotein. *Lancet*, Vol. II, #8296, p 460, 1982.

#### TRICYCLIC ANTIDEPRESSANT TOXICITY:

Tricyclic antidepressants, e.g., amitriptyline (Elavil), can cause convulsions and cardiovascular collapse if ingested in excessive amounts. In efforts to find ways of reducing mortality, animals were pretreated with diazepam (Valium) and sympathomimetic amines such as dopamine and dobutamine. Diazepam reduced the central nervous system toxicity and the adrenergic agents countered the bradycardia and myocardial depression produced by the quinidine-like effect of these drugs. *J. Pharmacol Exp Ther*, Vol. 222, #3, p. 424, 1982.

# ADRENERGIC BLOCKADE AND CORONARY HEART DISEASE:

Patients with coronary heart disease were given either the beta-adrenergic blocking agent propranolol (Inderal) or labetalol, a drug with both alpha and beta adrenergic blocking capability. Investigators found that patients responded better to the latter agent and suggested it may be used in place of propranolol in patients with coronary heart disease. *Br Med J*, Vol. 285, #6338, p. 325, 1982.

# METHYLPREDNISOLONE-TROLEANDOMYCIN INTERACTION:

Patients receiving methylprednisolone (Medrol) were noted to have prolonged plasma half-lives of the steroid when it was administered concomitantly with troleandomycin (TAO). Antibiotic-induced impairment of steroid secretion seemed to be involved to such an extent that the dosage of the methylprednisolone required adjustment downward. Since troleandomycin is similar to erythromycin, it seems as if a study using the more popular antibiotic with the steroid is in order. *Clin Pharmacol Ther*, Vol. 32, #2, p. 166, 1982.

# RITODRINE:

Ritodrine is a beta-2 adrenergic stimulant used to reduce uterine contraction in women experiencing premature labor. Diabetic women who receive this drug may develop ketoacidosis in spite the use of large doses of insulin. Early recognition and initiation of appropriate therapy are required to protect against fetal death. J Am Med Assoc, Vol. 248, #8, p. 973, 1982.

## TINIDAZOLE:

A drug structurally similar to metronidazole (Flagyl) has been studied with respect to its activity against anaerobic organisms. It has been said to produce its bacteriocidal activity by a mechanism similar to that of metronidazole, but most clinical experience with the newer agent has been in a prophylactic rather than a therapeutic role. More studies are needed before it can be recommended as a drug of choice in established anaerobic infections. *Drugs*, Vol. 24, #2, p. 85, 1982.

#### CALCIUM ANTAGONISTS:

Calcium antagonists have been found useful in treating certain types of angina pectoris and cardiac arrhythmias. The activity is apparently due to the ability of these agents to prevent influx of calcium into tissues. Since calcium influx into smooth muscle contributes to muscular contraction and thus increases the severity of hypertension and asthma, these drugs are being studied in appropriate subjects to ascertain their effectiveness for conditions other than those associated with the myocardium. *Lancet*, Vol. II, #8293, p. 307, 1982.

## PIROXICAM:

A new non-steroidal anti-inflammatory agent has been compared to aspirin with respect to its effect on gastrointestinal blood loss. Piroxicam (Feldene) showed no evidence of blood loss or irritation at doses as high as 10 mg taken four times daily. The drug has been used successfully to treat pain associated with rheumatoid arthritis, osteoarthritis, ankylosing spondylitis, acute musculoskeletal disorders, as well as dental, postoperative, and post-partum pain. Pfizer is marketing the drug. Clin Pharmacol Ther, Vol. 32, #2, p. 247, 1982.

# **ALDOSTERONE SECRETION:**

The role of potassium in regulating the secretion of aldosterone has been studied in dogs. Increases in plasma potassium concentrations have been shown to stimulate aldosterone secretion in order to remove the ion from the plasma, generally in exchange for sodium ions. It seems that the effect of potassium ions on aldosterone secretion is enhanced in the presence of angiotensin II and thus aldosterone activity is dependent on both potassium and angiotensin II levels. *J Clin Invest*, Vol. 70, #3, p. 667, 1982.

# **SELENIUM:**

Patients in Finland were studied to see if a reason might be found for the high rate of fatal cardiovascular disease associated with inhabitants of that region. Investigators found a deficiency in selenium in the plasma of these people as compared to control data gathered in other countries. Although sex, age, smoking habits, cholesterol levels, and diastolic blood pressure play a role in the pathogenesis of cardiovascular disease, serum selenium levels of less than 10 micrograms/milliliter may add another risk factor. The incidence of selenium deficiencies is more likely to be seen in areas such as Finland where the presence of the metal is especially low in the diet. *Lancet*, Vol. II, #8291, p. 179, 1982.

# **HAPTOGLOBIN:**

Haptoglobin is a hemoglobin-binding serum alpha-2 globulin which is present in three different forms. The amount of each type present is dictated by genetic factors. Patients experiencing myocardial infarctions were studied with respect to their haptoglobin concentrations, infarct size, and infarct frequency. It was noted that patients with a certain type of haptoglobin phenotype have more severe myocardial infarctions than do those in other groups, but the incidence of infarction in these is not significantly different from controls. *N Engl J Med*, Vol. 307, #8, p. 457, 1982.

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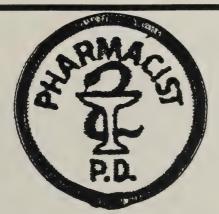
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### MAKE A DIFFERENCE!

Focus on Family offers a drug-free treatment program to people 18 years of age and younger who have drug or alcohol related problems. Parents and other family members are involved as a resource to the therapy provided. Counseling includes family, individual, couples and groups. Applicants must be residents of Anne Arundel County.

Fees for services are based on family's ability to pay. Many insurance companies offer partial coverage. For information or an appointment, call:

Focus on Family 650 Ritchie Highway Severna Park, Maryland 21146 (301) 647-8121



## calendar



January 23-30 Antigua MPhA Trip—limited space available \$699 per person

Feb. 13 BMPA Dinner Dance—get your table together soon—see Charles Spigelmire for arrangements and Man of the Year Tickets—be a winner

March 13 "Communication and the Elderly" Center for Aging MPhA Seminar

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## THE MARYLAND PHARMACIST

Official Journal of The Maryland Pharmaceutical Association

February, 1983 VOL. 59 NO. 2



Salicylate Poisoning

Wendy Klein-Schwartz, Pharm.D.

Where we are and Where we are Going

- Raymond A. Gosselin, Ph.D.

NDC Numbers for Third Party Forms

1983 Spring Regional Meeting and important House of Delegates Meeting is Scheduled for April 17, 1983. Mark your calendar and watch for details.

## THE MARYLAND PHARMACIST

650 WEST LOMBARD STREET **BALTIMORE MARYLAND 21201** TELEPHONE 301/727-0746

FEBRUARY, 1983

VOL. 59

NO. 2

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How can they afford it? How can persons, whether directly or indirectly, afford health care services? What about tomorrow? The price of these services is becoming prohibitive. Hospital charges can be \$50,000 or more plus prescription charges amounting to several more thousands of dollars. Patients are paying \$50 to \$100 per month for their maintenance prescriptions. Nursing homes are charging \$50,000 a year for two people. Senior citizens are deciding whether to buy food or medication.

Somewhere, somehow, changes <u>must</u> be made. No finger can be pointed at any one profession or group of people. Yet, something must be done. Why is it so easy, when you are on the outside, to see the solution to someone else's problem?

It is not hard for me to say: Why doesn't the medical profession use generic drugs more often? Why do the physicians prescribe the new products so early that cost so much? My friend the doctor says: I'm not sure of equivalence. I want the best for my patients?

I say: Why the astronomical charges for prescription services in hospitals? Administrators say: We need to cover hidden expenses.

I say: The State Medical Assistance Program is easily abused and is intransigent in its ability to take advice. They say: We are on top of it and cutting costs wherever we can.

We are all tugging and pulling, but nothing seems to be getting done. I would like to see someone, maybe the Governor, bring together a commission or a council; similar to the Maryland High Blood Pressure Commission, made up of the professions, state and local officials and patients, to gather information and make recommendations for remedies. I believe that, between men and women of good will, some objective solution will be achieved. We must get out of our little bailiwicks and see the total problem.

PRESIDENT

## Salicylate Poisoning

by Wendy Klein-Schwartz, Pharm.D. Reprinted from the Toxalert

For many years, aspirin was the leading cause of accidental poisoning and poisoning deaths among children in the U.S. Since 1965 there has been a progressive decline in aspirin poisonings which reflects several factors including mandatory safety packaging, restriction of the number of baby aspirin per container, the increasing use of acetaminophen and a greater public awareness of the dangers of aspirin. Today, chronic poisoning due to therapeutic overdose produces a greater morbidity in children than does acute salicylate poisoning. 1,2

Mild symptoms of acute intoxication including nausea, vomiting, and tinnitus may occur at a dose of 1 grain/lb (140 mg/kg), while moderate poisoning requires approximately 2 grains/lb (280 mg/kg). Factors which may influence the severity of the intoxication include age, state of hydration, pre-existing fever and renal function. Infants appear to be more susceptible to several of the complications of salicylate overdose including metabolic acidosis, hypoglycemia, dehydration and fever. Since salicylism results in dehydration and fever, patients with these findings prior to the ingestion are less able to handle the overdose. Finally, since renal elimination of salicylic acid is the primary route of excretion from the body in an overdose, renal dysfunction will markedly interfere with the patient's ability to detoxify himself.

A mild to moderate salicylate poisoning is characterized by nausea, vomiting, tinnitus, headache, confusion, lethargy, hyperventilation, tachycardia and fever. Clinical manifestations of severe poisoning include delirium, hallucinations, convulsions or coma as well as respiratory or cardiovascular collapse.

Hyperventilation is an early sign of salicylate toxicity and may be seen as early as 30 minutes after the overdose. Salicylates stimulate the respiratory center in the brain resulting in hyperventilation and respiratory alkalosis.<sup>3</sup> Respiratory alkalosis is often the only acid-base disturbance seen in older children and adults. To compensate the kidneys increase bicarbonate excretion which is accompanied by potassium loss resulting in a decrease in the body's buffering capacity and hypokalemia.

Salicylates uncouple oxidative phosphorylation resulting in increased oxygen consumption, increased

heat formation leading to fever as high as 42.2°C and increased demand for glucose. Deranged glucose metabolism may result in either hyperglycemia or hypoglycemia while alterations in glucose and lipid metabolism result in increased lactic acid, pyruvic acid, and ketoacid levels. Severe metabolic acidosis is more likely to develop in younger patients especially those less than 4 years of age. Severe acidosis rarely develops before 12 hours and becomes nearly universal in young children within 20 hours.

Fluid and electrolyte imbalance are frequent complications of salicylate overdose. Dehydration is the result of vomiting and decreased fluid intake, increased insensible water loss secondary to hyperventilation and sweating, and increased renal loss related to excretion of salicylate and other organic anions. In children dehydration may be a feature at an earlier stage than adults.

Pulmonary edema is a rare but life-threatening complication of salicylate poisoning and is probably related to a direct effect of salicylate on pulmonary vascular permeability to protein. Inappropriate ADH secretion has been reported resulting in fluid retention. In an overdose, salicylate competes with Vitamin K resulting in decreased prothrombin and factor VII production. However, acute hemorrhage is rare. Central nervous system manifestations of salicylism include headache, drowsiness, irritability, restlessness, confusion, delirium, hallucinations, convulsions, and coma. The severity of these manifestations is believed to be directly related to the concentration of salicylate in the brain. Acid-base and electrolyte abnormalities, fever, and altered myocardial metabolism may result in decreased cardiac output and congestive heart failure or cardiac arrhythmias.

Both qualitative and quantitative tests are available to aid in identification and assessment of salicylate poisoning. A positive ferric chloride test documents the presence of salicylate in the urine while the Phenistix® test provides a rapid semi-quantitative estimate of the serum salicylate level. Quantitative determination of the serum salicylate level is essential. Plotting the serum salicylate level on Done's nomogram provides an estimate of the severity of the acute overdose. The nomogram should be used in acute intoxication only and the level should be drawn at 6 hours or later after the over-

dose since peak levels do not occur until this time.

Initial management of a salicylate overdose involves emptying the gastrointestinal tract with syrup of ipecac or lavage followed by activated charcoal and a saline cathartic. Emptying the stomach is recommended for ingestions of greater than 1 grain per lb. In large overdoses, delayed gastric emptying and the formation of concretions results in delayed absorption; therefore, attempts at emptying the GI tract are warranted up to 12 hours post ingestion. Fluid therapy should be aimed at correcting dehydration, hypoglycemia, acid-base and electrolyte disorders. Fever is managed by sponging with water, placing the patient in a cool room, or a cooling blanket.

Since acidosis increases the CNS salicylate level, correction of acidosis with bicarbonate will ion trap salicylate in plasma and decrease levels in the brain. Additionally, forced alkaline diuresis with sodium bicarbonate, diuretics (furosemide or mannitol) and fluid will enhance salicylate elimination from the body. Two meq/kg of sodium bicarbonate is added to the initial i.v. fluid. The goal is a urine pH >7.0 and a urine output of 3-6 cc/kg/hr. Since urine alkalinization is impossible in the presence of hypokalemia, KCl usually must be administered as well. Tromethamine and acetazolamine are not recommended as alkalinizing agents in salicylate poisoning because of their potential toxicity. The role of urine alkalinization in the management of salicylism is currently an area of controversy since it is often difficult to achieve in severe poisoning cases, especially in children. In serious intoxications, exchange transfusion, peritoneal dialysis, hemodialysis or hemoperfusion will remove salicylates from the body. The latter two procedures are most efficient and should be considered in patients with renal failure or with an excessively high salicylate level (greater than 100-130 mg%).

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876, 1978.

TOXALERT is published by the staff of the Maryland Poison Center at the University of Maryland School of Pharmacy, Baltimore, Maryland.



## **Anne Arundel County Drug Abuse Program**

In its continuing effort to curb adolescent substance abuse, Anne Arundel County has created Focus on Family, a drug-free outpatient treatment program. The project is a departure from traditional substance abuse treatment programs in that it incorporates parents into the treatment process. The outgrowth of the county's 1978, "Task Force on Adolescent Drug and Alcohol Abuse", Focus on Family fills a void in the continuum of services available to county residents with drug abuse problems. A 1981 needs assessment determined that there was lack of treatment services devoted to adolescents with substance abuse problems that worked closely with family members. While the family is not seen as the source of the substance abuse problem, the philosophy of the program realizes that frequently solutions to such problems may reside within the family system. In addition to family therapy, the treatment staff employs individual and couple's counseling to augment treatment. Community linkages are available for recreational, vocational and educational services.

The treatment staff, headed by a licensed psychologist, is composed of master's level therapists with post-graduate training in family therapy and experience in adolescent and substance abuse work. In addition, services of a consulting child psychiatrist are available. Urinalysis services for drug abuse screens are provided by a comprehensive pathology laboratory with an extensive background in emergency toxicology work.

Referrals to the program are made by any concerned party including school personnel or physicians. As might be expected, a significant number of youth in treatment have some involvement with the legal system. As a result, the project not only provides treatment for substance abuse but indirectly attacks the problem of iuvenile delinquency.

Focus on Family will complete its first year of operation in February, 1983. In this brief period of time the primary drug of abuse reported by clients is marijuana (55%) with alcohol the second most frequent (28%). Clients have also been treated with other substance abuse problems including barbiturates, cocaine, PCP, OTC and a variety of inhalants. Of course, many clients are polydrug abusers. Approximately 5% of the cases are preventive in nature. Treatment typically lasts from 4–6 months.

Focus on Family is open to all Anne Arundel County residents 18 years of age or younger. While there is a fee for service, charges are based on ability to pay. Many health insurance policies will reimburse for a portion of the cost. The clinic is located at 650 Ritchie Highway, Severna Park, Maryland 21146. Information or referral phone calls can be made at (301) 647-8121.

## The Industry Relations Committee Says:

# Make February The Month You Clean Out Dated Merchandise

The Industry Relations Committee of the Maryland Pharmaceutical Association formed a subcommittee to study the issue of a Model Return Goods Policy. It was the feeling of the Committee, which is made up of manufacturing representatives and practicing pharmacists, that the policy should be fairly comprehensive and yet, provide some guidance and consistency in this area. The goal of the Committee was to develop a policy which could be endorsed by the Association in an attempt to establish a standard and which would be acceptable to both manufacturers and retailers.

The Committee recommends that members retain this page from the journal and refer to the following MPhA adopted policy whenever a question concerning returning merchandise arises. In addition, the Industry Relations Committee serves as an ombudsman whenever members refer a problem concerning this subject in writing to it.

### MODEL RETURN GOODS POLICY

- New prescription drug products shipped to the pharmacy automatically by the manufacturer or whole-saler may be returned at any time for credit or exchange.
- Regardless of expiration dates products may be returned for credit or exchange at any time, providing they are sealed, intact, original packages.
- For patient protection, open packages of prescription drug products which are outdated may be returned for at least partial credit.
- Authority for returns may be required by the pharmaceutical manufacturer or wholesaler—a form should be provided to the pharmacy.

## **SAMPLE FORM to Return Merchandise**

TO: (Name of Manufacturer)
Address — including the name of Town, County,
State and Zip Code

(Note — the above as well as the policy for making returns may be located in the NWDA list of Mfgs. in January 1977 edition of the American Druggist Blue Book)

Please grant us authorization to return the following pharmaceuticals of your manufacture as per your policy:

It is best to list the items — listing complete packages as well as open containers. If a return of a schedule 2 is requested, be sure to give exact count and hold these aside as they usually will send a narcotic form. (Because of mail rates, it may be less expensive to have the drug inspectors destroy them.)

Note — If in their reply, they say they do not accept open containers — or — partially filled ones, call their attention to the fact that for the protection of the patient, as well as the pharmacist and the manufacturer, you believe it best they change their policy to permit them to accept them for credit.



## **NOMINATIONS**

The Awards Committee of the Maryland Pharmaceutical Association is soliciting nominations from the membership for two prestigious awards which are presented to pharmacists at the Annual Banquet. The Committee decided that more membership input into the Awards process would be appropriate. The two Awards are:

BOWL OF HYGEIA This award is presented annually through the cooperation of the A. H. Robins Co. to a pharmacist who has compiled an impressive record in the area of community service.

MPhA ACHIEVEMENT AWARD This recently instituted award is given to a pharmacist who is distinguished in the area of contributions to the profession of Pharmacy.

Nominations for either of these two awards may be sent to the Awards Committee for consideration. Nominations must be in writing and should outline the qualifications of the individual for the award being considered. Nominations are kept on file each year and may be considered by the Awards Committee in future years. Nominations or inquiries about the nominating process should be sent to the M.Ph.A., 650 W. Lombard Street, Baltimore, Maryland 21201.

## RESOLUTIONS

The Vice Speaker of the House of Delegates, Harry Hamet, also serves as Chairman of the Association's Resolutions Committee. The Committee will be meeting soon to consider issues and resolutions for the Annual Convention of the Association, June 26–30, 1983 in Ocean City, Maryland. In order to allow for greater membership participation in the resolution process which forms the basic policy making structure of the Association, the Committee is soliciting input from the membership in the form of suggested resolutions or resolution topics. Resolutions may be sent to the Association at this time with any background or supporting information necessary. They should be sent to the M.Ph.A. Resolutions committee, 650 West Lombard St., Baltimore, Md. 21201.

FEBRUARY, 1983 7

BIG BOTTLE

Patent No. 3,385,886

## BIG SAVINGS

NDC 0524-0039-05

## **RUFEN®**

(IBUPROFEN)

Each tablet contains: IBUPROFEN ... 400 mg

## 500 TABLETS

Caution: Federal law prohibits dispensing without prescription.

Manufactured by The Boots Company Ltd. Nottingham, England For



For complete prescribing information see accompanying brochure. Store at room temperature between 15° and 30° C (59° - 86° F). Dispense in a tight, light-resistant container as described in USP.



## 500 tablet size makes dollars and sense

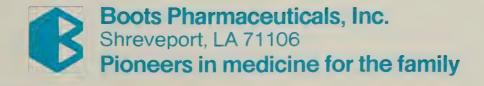
# RUFEN (ibuprofen/Boots) 400 mg tablets

## Rufen® makes sense because:

- The Boots Company P.L.C. of Nottingham, England originated ibuprofen. Rufen® is a registered brand of ibuprofen. Comparative bioavailability data available on request.
- You can now do something about the ever increasing prices for the other brand of ibuprofen 400 mg.

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It costs less. The A.W.P. of the new 500 tablet size is \$66.00, about \$14.00 less than the direct price of the other ibuprofen. The new 500 tablet size is at your wholesaler now—it makes sense to stock up!



## Where we are and Where we are going

by Raymond A. Gosselin

Massachusetts College of Pharmacy and Allied Health Sciences

Presented at the National Council of State Pharmaceutical Association Executives Boston, Massachusetts

There are three principle determinants of what pharmacy will likely become in the decades ahead. These are

1. The size and composition of our population

2. Technological

Advances and Breakthroughs

3. Economics

Each is powerful in its own right, but when acting together produce a synergism which is apt to provide results greater than their individual sums.

How these forces will impact on our state associations is probably best left to your individual and collective expertise. You, I'm sure, know a good deal more about associations and their destinies than I. However, I will make a fundamental assumption at the outset which recognizes that the way pharmacy itself emerges into the next century will impact heavily on the future of the associations.

Available manpower, telecommunications, computers, information plus economic factors may well determine the membership status and financial support levels of associations in the future. Should pharmacy become more monolithic in its practice, consolidation amongst associations could be an outcome. On the other hand, if it becomes even more pluralistic than it is now--which is considerable-- further subdivision and specialization may well be in the cards.

Before going on, I will admit that I'm not a total stranger to pharmacy associations, having been and still being a member in a dozen or so, and having had the experience, if not pleasure, or serving as a board member, and having served and/or chaired numerous committees at the local, state and national level.

## **DETERMINANTS**

The single most powerful determinant of the future practice of pharmacy is the size, composition and attitude of the nation's population. Society shapes the future, not individual professions or businesses. Gauging how that society behaves, and how and when it changes its attitudes is the key to the future. In contrast to the world where an increase in population from four to six billion will occur in the next generation, the United States will increase from the current 230 million people to a relatively modest 260 million at the turn of the century.

The increases, however, will not be uniform on a regional basis. We already see that the "Sun Belt" differs from the "Snow Belt", and there is the powerful demographic inversion in terms of the relationship of

population age groups.

At the upper end of the age scale is the burgeoning number and proportion of elderly, while at the opposite and of the scale is the so-called "baby bust" of the 1960's and 1970's, which has seen the number of births drop steadily from approximately 123 per thousand women in 1957 to a low of 66 per thousand in 1976. The number has been hovering near 70 per thousand to the present time, and we may expect to see a modest "baby boomlet" in the years immediately ahead, but far short of the rate to replace the generation ahead of it.

The relationship of young to old at

the turn of the century will upset the traditional pyramid whose wide base has represented youth while the pinnacle has represented the aged. The reverse will be true in the early part of the next century, with a narrow base of young and a wide top level of elderly. Increase in the number of elderly ia a major factor in the creation of demand for pharmacy services and the shortfall of youth impacts on the means for satisfying that demand.

The imbalance of young versus elderly will play a major role in how pharmacy evolves after the turn of the century when the 1945 to 1960 "post-world War II Baby Boom" generation enters the ranks of the elderly carrying with them a lifetime of habits, lifestyles, attitudes and expectations with them. This is the generation which has had more impact on our culture, politics and economy than perhaps any other in our history.

Today, they are America's lower middle-aged. The leading edge of the group reaches age 40 in 1985, and the trailing edge sees its 25th birthday at that time. In 1995, it is 50 and 35, respectively, and 2005, 60 and 45. They are vastly better educated than their predecessors, are better off economically, largely because of the impact of the "two-income families", have become the grass roots backbone of the consumer movement, are physical fitness prone, and are the largest voting block in the nation, a fact which is not lost to the politicians of the century.

In the year 2010, the leading edge of this group crosses the magic 65-year-old barrier into that has been thought of at least in the past as the coming of old age. It is unlikely that this powerful cohort will simply accept the old traditional ways of dealing with advanced age. They may well want to exercise a great deal more control over their individual destinies, including responsibility for the management of their own health and health care.

Pharmacy should be extremely aware of what it is that this enormous bulge has and is now demanding of pharmacists and what they will be looking for over the next 20 years. So far, this generation has been far from monolithic in its approaches to life. It avoids regimentation and does not appear to appreciate the imposition of arbitrary solutions to issues or problems. In a word, they are extremely diverse. They vary greatly in their attitudes, desires,

needs and wants.

Our way of doing business and providing professional services is highly diverse because those who make the purchases demand and get the ultimate in freedom of choice. This is not likely to change. What will change is the health status of this "senior boom."

Despite their current good health and the application of preventive medicine—the aging process will inevitably produce disease and, in terms of numbers, a frightening amount of it. The illnesses will be primarily chronic, long-term and ambulatory. Most of it will be drug treatable. The balance of acute and chronic disease is likely to shift significantly towards the chronic side as the population becomes top heavy with older patients. Physicians, despite their growing numbers, will have their hands full in dealing with new cases where diagnosis will be the critical concern.

Chronic disorders, once they are properly diagnosed, become a matter of adherence to and compliance with prescribed treatment. The sheer number of individuals in this category will tax the health care delivery system, and it would seem to present pharmacy with a mighty challenge and a great opportunity to develop a meaningful patient-oriented service without impinging on the turf of other health professionals.

Because the majority of the sick will be ambulatory and living at home, the drug supply will have to be placed in close proximity, which means that an efficient and cost effective distribution system becomes even more critically important in the future.

But what of the impact of the "baby bust" generation which is coming up behind the great boom? there is the ever present and serious question concerning the dwindling size of the work force which sees and will see fewer and fewer people earning the incomes against which taxes and insurance premiums can be levied to support the economic, social and health needs of the generation ahead. The boom generation may well continue to work in order to earn income well beyond the traditional retirement age of 65.

At the same time, the greatly reduced number of persons in the 18-24-year-old cohorts during the 1980's and 1990's will create serious competition for the services of a scarce manpower resource.

Even now, the impact of the decline in young adults is being felt in the nation's colleges and universities as enrollments contract. This is a consequence of a rapidly diminishing pool of college-age and college-eligible individuals, plus the rising competition for their attention by equally pressured non-educated enterprises who will need them to fill their ranks.

This is a long-term problem, for even if the birth rate should rise dramatically in the 1980's and 1990's, it would be after the year 2000 before any appreciable increase in young adults would be realized, and still longer before they would be trained or educated as professionals.

All professions need new blood to keep them progressive and alive. I suspect the same is true of associations. The profession of pharmacy is likely to see a substantial drop-off in the number of new pharmacists as the two pre-21st century decades unfold. Demand for drug treatment is entering an accelerated growth phase while the supply capability in terms of human resources faces a turndown.

## **TECHNOLOGY**

Following population and demographics as critical determinants of what pharmacy practice will be like when the calendar shows 2001, is technology. Pharmacy has only seen the tip of the iceberg in this regard. A shortage of pharmacists in the future will likely provide a dramatic impetus for heavy utilization of computer technology and utilization of para- or sub-professionals.

Pharmacy is indeed ripe for the practical application of computers. It has all the characteristics of a computerizable activity. Predictions at this time concerning the use of computers in the future is less precise than perhaps other projections might be. This is primarily because of the speed with which new developments occur within the computer field.

By the year 2000, we will likely have seen the evolution of several new computer generations. By that time the computer may be as commonplace as the hand calculator, digital wrist watch or telephone. Not only will pharmacy be heavily involved, but it is likely that nearly every household will have its own computer as well.

Computer-controlled automated processes are generally expected to dominate

production in the 1990's, enhancing output and quality of products. The middleman functions in the distribution system, already well into computerization and automation, will likely evolve to an even higher level. It is not so likely that automation will become common at the "last 30 inches" of the distribution pipeline. The consumer's need and right to knowledge and also to be heard will demand a personal interface. Automated distribution systems, however, will likely foster the use of factory-sealed individual unit-of-use packaging throughout pharmacy. The final transaction, however, will still be a human-to-human event for the vast majority of purchases.

Pharmacy is perhaps at some risk as a knowledge delivering profession, for the information with which it deals is readily computerizable. Much sooner than later, virtually all infromation concerning drug action, toxicity, interaction and price will be available literally at the fingertips of pharmacists or their aides at the time of dispensing, or to physicians at the time of prescribing.

Much of what, in the past, pharmacists were expected "to know" about individual drugs and their actions will be instantly retrievable from an on-line or free-standing computer which will be quite inexpensive. It may not be illogical to think that such information will be available directly to patients on home computers, or via select cable TV channels.

The pharmacist's interpretation and application of this information to the needs of the individual drug taker is quite another matter, and is an essential professional function and service. This data and information feedforward function for patients can be greatly enhanced by the use of computers. Perhaps the use of computers suggests the possibility of shortening the length of time needed to adequately educate and prepare pharmacists for practice in the future. To teach how to retrieve information from a data bank rather than to memorize it requires a good deal less time.

Data concerning the merits of competing therapeutic entities and the actual performance of "interchangeable drugs" will need to be generated. The pressures for a surveillance and data feedback system for prescribed drugs amongst the ambulatory ill will likely emanate from the consumer's concern for individual safety; the government's concern for efficacy and

safety; the physician's need to know treatment outcomes for patients not frequently seen, such as the chronically ill; academic and industry needs for research and development data; industry's needs for market research and postmarketing surveillance data; and insurance carriers need to determine the cost effectiveness of alternative approaches to patient treatment and utilization rates.

## **ECONOMICS**

Economics is the third major determinant of pharmacy's future. Throughout the 1970's, despite the great experiment in attempting to provide prescribed drugs under third party programs, the vast majority of the nation's trillion or more prescription dosage units are bought and sold under the rules of the free marketplace.

With the coming shortage of new wage earners, it is unlikely that the burden of support of prescription needs of the elderly during the first three decades of the next century will be placed on those in early or mid-career positions. It is difficult even now to imagine a health financing system which is based in increased payroll taxes when the burden is already there to provide for social security retirement benefits, let alone Medicaid needs.

Private insurance, funded to a large measure by employers, may well augment or supplant tax-supported programs, but it is more likely that prescription drugs, except in unusual circumstances, will be acquired pretty much as they are today, out-of-pocket, in free-standing pharmacies or, for some proportion of the public as part of a prepared health maintenance organization contract.

The two-income families of today will lead to the two-pension families after the turn of the century, easing the burden at least for the so-called "young-old". Also to be anticipated is the likelihood that the post-World War II baby boom will not generally retire at age 65. A very high proportion of them hold college degrees, and will be highly productive beyond the traditional retirement point. Shortages among the young will create demand for the services of the elders and, if their good health practices continue, they will be physically and mentally capable of it. The "old-old", those 75 years of age and above, will become the principal medically needy



group. Many will be dependent on their families, insurance programs and the government to pay their health bills. After the turn of the century, however, this group will be relatively small as its origins spring from the low birth rate era of the Great Depression and a bit later, World War II. In any event, there will be strong pressure to keep health care costs low. The free market for prescription drugs is very likely to remain highly competitive with most retail establishments maintaining diverse front-of-store merchandising operations to provide a wider economic base to support the entire enterprise including the prescription department, tight HMO contracts and other third party insurance regulations will also work to keep unit costs low. Volumes, however, will he high.

If a data feedback system emerges in pharmacy, the case for the cost effectiveness of ambulatory prescription drug treatment, as opposed to other forms of treatment, could be well established and documented. This in turn could bring about financial incentives for pharmacists, from insurance carriers, and perhaps even the government, who will be interested in making investments which will assist in lowering the total health care costs of the nation. What then may we expect in a short twenty years when the new century begins? What could be pharmacy's "surprise-free" scenario for the year 2001?

The first point is that pharmacy will be at least as pluralistic as it is now, and very likely will be even more so then. The basic diversity of the human race and the consumer's strong instinct for the right of choice will see to it. The Baby Boom now become the Senior Boom will not surrender!

There will be independent pharmacies of all sizes and shapes, including the ultra professional, providing a wide variety of goods and services; there will be small, medium and large chains, also highly varied in style and mode of operation; retailers such as food distributors, department stores and others, may well expand their existing pharmacy operations or initiate them as the need to diversify intensifies; hospitals will have incentives to follow their discharged patients home via the provision of prescription services in outpatient departments; group practices and health maintenance organizations will be developed and will appeal to certain market segments in the population, and mail order pharmacies will continue to serve many patients who will feel competent enough to monitor and mange their own treatment.

Pluralism and diversity will be further emphasized as the need for decentralization of pharmacy services becomes more apparent. Cost containment, indeed cost reduction, will find a vastly growing, "at home", ambulatory drug treated population. The influx of doctors into practice during the remainder of the current decade will promote decentralization, and more medical and pharmacy practices are apt to be found in areas that are now thinly covered.

Pharmacists are themselves highly diverse in how and where they choose to practice. They, too, have the fundamental right to freedom of choice. Some, as they enter practice, will find pharmacy an exciting retail enterprise and will choose a career path in a chain, aspiring to an eventual management position.

Others with an entrepreneurial inclination will work as employee-pharmacists in either an independent or chain pharmacy and prepare for the day when they can open their own pharmacy or chain. Others, no less ambitious or motivated, will find great satisfaction in being pharmacists in an employee situation.

The retail sector will change with the coming of the computer to its full potential. Productivity will increase markedly with computers. In addition to supplying the information function, they will almost automatically control business operations, pricing, ordering and billing.

Pharmacy aides, technicians, in addition to the computer, will likely be utilized to a higher degree to compensate for

the shortage of pharmacists and in order to free pharmacists for duties and roles that he or she may wish to develop for him or herself. Some pharmacists may wish to add a business degree to their pharmacy education and develop the pharmacy further into an efficient and profitable enterprise either as an owner or manager.

Others, highly motivated by their clinical and therapeutics education and experience, may seek closer relationships with others in the health care team by fostering collaborative working schemes with individual physicians or group practices. In some creative models, pharmacists may become prescribers under well-defined guidelines or restrictions.

Most pharmacists, wherever they may be, will become involved in monitoring ambulatory patients, for so-doing will be both a good business practice as well as a valued professional function.

The retail sector of pharmacy will remain the cornerstone of the prescription drug distribution system. This is an essential, necessary and vital function. It will become more critical as the nation becomes nearly overwhelmed with the needs of its older people.

Whatever else pharmacy may become, it will continue to provide the distribution function which it has done so well for so long. The responsibility for its efficiency will remain the pharmacists's even while computer and pharmacy aides take over more and more of the routine functions.

The retail sector, via feedforward and feedback systems utilizing computers and telecommunications systems, will more nearly approach the modus operandi of the well-integrated institutional practice site as found in hospitals. There, pharmacists have been well-accepted as specialists in drug therapy and as monitors and transmitters of essential information, up as well as down.

Now all patients will be cared for at home or in hospitals. Nursing homes will be needed, but these too are likely to experience change as the big generation approaches its own elderly status. It will likely bring about change in the way in which elderly individuals are taken care of in this institutional setting. Pharmacists are likely to develop even further as consultants and managers of the drug regimens which will be primarily maintenance therapy.

There are approximately 230 million people in the United States now, and there

are 63.4 pharmacists per 100 thousand of population. With pharmacy college enrollments down considerably in the 1980's from the enrollment levels of the 1970's and with the prospect of new students enrollments declining steadily during the remainder of the decade, it is unlikely that there will be more than the same proportion in the year 2000, likely less.

Using the expected population of 260 million, the number of pharmacists at the turn of the century would be perhaps no more than 165,000. By the end of this century, perhaps 505 or more of them will be women as the ratio of women increases, reflecting the attrition of the predominantly male older generations of pharmacists, and the influx of females into the profession during the last three decades of the 20th century.

A the turn of the century, the makeup of the ranks of pharmacy will be considerable different from what it has been in the past. The first five-year B.S. pharmacists will themselves be retiring or approaching retirement during the first decade of the 21st century. Virtually all less than five-year pharmacists will have already left the profession.

The predominant group of practitioners, at that time, will be the large "capitation era bulge" pharmacists of the 1970 decade, whose education provided intensive training in clinical pharmacy, communication skills and patient counseling and monitoring. They will indeed dominate the profession, as their predecessors will be all but gone. The sparseness of replacements behind them will make them a unique force for influencing pharmacy's adaptation to a society of which they, too, are a part.

The prospects for a solid profession of pharmacy, embracing the strong traditional functions of the past but also incorporating the new concepts and approaches honed to efficient working levels during the decades of the 80's and 90's are quite good indeed-but the greatest certainty is that pharmacy will range far and wide in what it does and how it does it.

There is, therefore, a genuine challenge ahead for the associations. The 1960's and 1970's are behind us-gone. The basic trend lines for the turn of the century are present today in the 1980's. The 1990's are close at hand. Now is the time to prepare!

## Pharmacy Invoice Error Code List For Medicaid

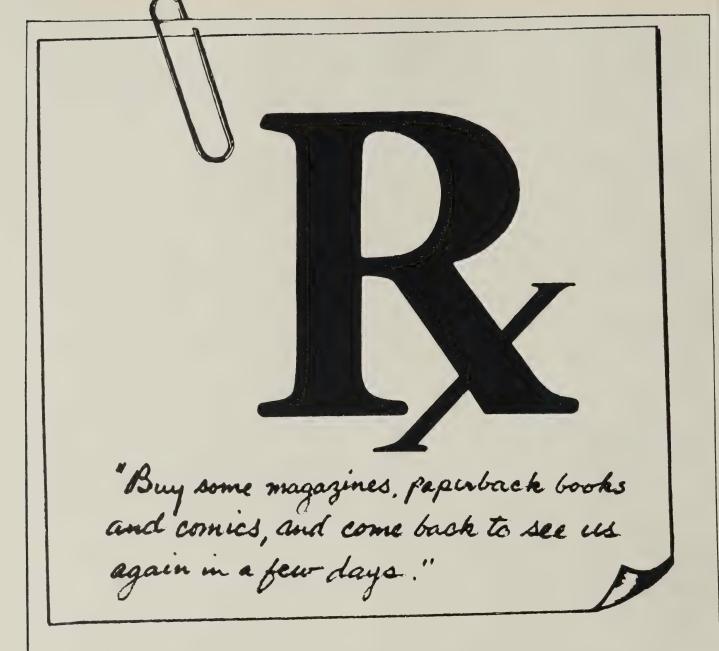
CODE	DESCRIPTION
01	Invalid Recipient Number
03	Invalid County (First two digits of recipient number)
04	Recipient Name Missing
05	Invalid Provider Number
08	Invalid Date Dispensed
09	Service Date Greater Than 12 Months From Date Received
18	Collections Result in a Credit Bill (Usual & Customary Charge Less than Co-Pay)
20	Recipient Not on Eligibility Master File
21	Recipient Not Eligible for Medical Assistance on Date of Service
22	Invalid Total Amount Charged
24	Name Does Not Match Recipient ID Number
25	Provider Number Unmatched
26	Provider Locked
31 32	Invalid NDC
33	Invalid Prescription Number Invalid Refill Number
36	Invalid Date Prescription Written or Date Written Greater
50	Than Date Dispensed
37	Days Supply Missing or Not Numeric or Zero
38	Quantity Dispensed Missing or Not Numeric or Zero
51	Recipient is Enrolled in East Baltimore Medical Plan
53	Recipient is Enrolled in West Baltimore Community Center
55	Recipient is Enrolled in Chesapeake Physicians
58	Recipient is Enrolled in the Constant Care Community Health Center
67	Drug Dispensed Before Drug Effective Begin Date
68	Serv Stop Date is Greater than 31 Days Prior to Period Ending Date
69	Serv Stop Date is Greater than 31 Days from Period Ending Date
70	Serv Stop Date Greater than Serv Stop Date or Serv Stop Date Greater than Period Ending Date
71	Invalid Service Stop Date
73	Unit Dose Package Size for Single Script Rx
75	Days Supply Greater than Maximum Allowed
78	Drugs Dispensed after Drug Effective End Date
79 81	Needles & Syringes Usual & Customary Over \$7.50
	Usual & Customary Charge over \$40 with no Prior Authorization Number
82	NDC Does Not Match Formulary
83 84	Quantity Dispensed Greater than Allowed by Formulary Quantity Dispensed Less than Minimum on Formulary
85	Date Dispensed Greater than Current Date
86	Date Written to Date Dispensed Greater than Ten (10) Days
87	Refill Dispensed Greater than 100 Days after Original
88	Compound Rx over \$7.50
90	Refill Greater than 180 Days from Original for Birth Control
E-5	Duplicate Invoice
E-6	Duplicate Invoice
E-7	Duplicate Invoice
Т 5	Dunlicata Invoice

FEBRUARY, 1983

Duplicate Invoice

Duplicate Invoice

Duplicate Invoice



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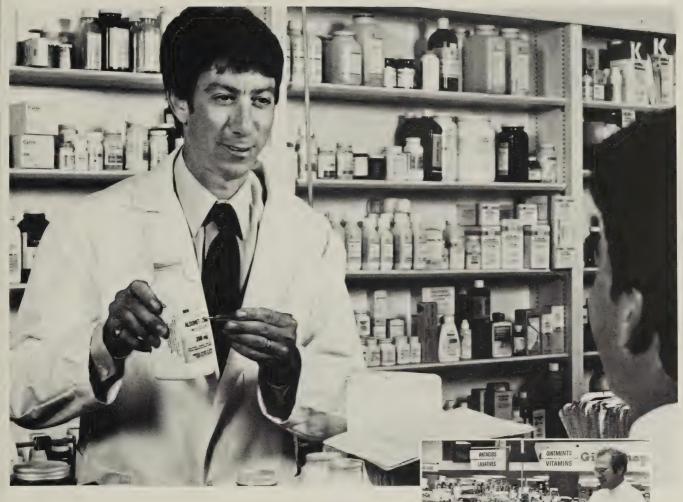
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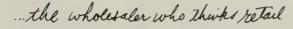
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## NDC Numbers for Most Commonly Used Drug Products An Aid for Filling Third Party Forms

The following list covers many of the most commonly used drug products and the NDC numbers for the smallest size normally used of that product. Space is left for you to fill in the last two digits of the NDC to convert to the package size you use and want to list on third party forms. Space is also available to permit additions of drug products you want added to the list. Only branded products are listed.

Achromycin V (Lederle)	Aristo-Pak (Lederle)	Butazolidin (Geigy)
0005 4880 23 ( ) 250 mg caps 100's 0005 4875 23 ( ) 500 mg caps 100's	0005 4406 07 ( ) Therapy Pak. 16's	0028 0044 01 ( ) 100 mg caps 100's
Actifed (Burroughs Wellcome)	Atarax (Roerig)	0028 0014 01 ( ) 100 mg tabs 100's
0081 0019 96 ( ) 480 ml 0081 0018 55 ( ) 100's	0049 5600 43 ( ) 10 mg tabs 40's 0049 5610 43 ( ) 25 mg tabs 40's	Cafergot (Sandoz)
Adapin (Pennwalt)	Ativan (Wyeth)	0078 0033 02 ( ) Suppos. 12's 0078 0034 42 ( ) Tabs 90's
0018 0356 71 ( ) 10 mg caps 100's 0018 0357 71 ( ) 25 mg caps 100's 0018 0358 71 ( ) 50 mg caps 100's 0018 0361 71 ( ) 75 mg caps 100's	0008 0081 02 ( ) 0.5 mg tabs 100's 0008 0064 02 ( ) 1.0 mg tabs 100's 0008 0065 02 ( ) 2.0 mg tabs 100's Atromid S (Averst)	Calan (Searle)  0025 1851 31 ( ) 80 mg tabs 100's 0025 1861 31 ( ) 120 mg tabs 100's
Aldactazide (Searle)	0046 0243 81 ( ) 500 mg caps 100's	Capoten (Squibb)
0014 1011 31 ( ) 100's	Auralgan (Ayerst)	0003 0452 50 ( ) 25 mg tabs 100's 0003 0482 50 ( ) 50 mg tabs 100's
Aldactone (Searle)	0046 1000 15 ( ) Otic Drops 15 ml	0003 0485 50 ( ) 100 mg tabs 100's
0014 1001 31 ( ) 25 mg tabs 100's	Azo Gantanol	Catapres (Boehringer Ingelheim)
Aldomet (Merck, Sharp & Dohme)	0004 0011 01 ( ) 100's	0597 0006 01 ( ) 0.1 mg tabs 100's
0006 0401 68 ( ) 250 mg tabs 100's 0006 0516 68 ( ) 500 mg tabs 100's	Bactrim (Roche)	0597 0007 01 ( ) 0.2 mg tabs 100's 0597 0011 01 ( ) 0.3 mg tabs 100's
Aldoril (Merck, Sharp & Dohme)	0004 1033 28 ( ) Ped Susp 480 ml 0004 1015 28 ( ) Susp 480 ml	Ceclor (Lilly)
0006 0423 68 ( ) '15' tabs 100's 0006 0456 68 ( ) '25' tabs 100's	0004 0050 01 ( ) 100's 0004 0117 01 ( ) 100's	0002 3061 02 ( ) 250 mg pulvules 100's 0002 3062 02 ( ) 500 mg pulvules 100's
Amcill (Parke Davis)	Benadryl (Parke Davis)	Centrax (Parke Davis)
0071 0402 24 ( ) 250 mg caps 100's 0071 0404 24 ( ) 500 mg caps 100's	0071 0471 24 ( ) 25 mg caps 100's 0071 0373 24 ( ) 50 mg caps 100's	0071 0552 24 ( ) 5 mg caps 100's 0071 0553 24 ( ) 10 mg caps 100's
Amoxil (Beecham)	Blocadren (Merck, Sharp & Dohme)	Choledyl (Parke Davis)
0029 6006 30 ( ) 250 mg caps 100's	0006 0136 68 ( ) 10 mg tabs 100's	0071 0211 24 ( ) 200 mg tabs 100's
0029 6007 29 ( ) 500 mg caps 50's	0006 0437 68 ( ) 20 mg tabs 100's	Clinoril (Merck, Sharp & Dohme)
Antivert (Roerig)	Brethine (Geigy)	0006 0941 68 ( ) 150 mg tabs 100's
0662 2100 66 ( ) 12.5 mg tab 100's 0662 2110 66 ( ) 25.0 mg tab 100's	0028 0072 01 ( ) 2.5 mg tabs 100's 0028 0105 01 ( ) 5.0 mg tabs 100's	0006 0942 68 ( ) 200 mg tabs 100's
Apresazide (Ciba)	Brevicon (Syntex)	Combipres (Boehringer Ingelheim)
0083 0139 30 ( ) 25/25 caps 100's	42987 110 15 ( ) Memorette 3 × 21 ea.	0597 0008 01 ( ) 0.1 mg tabs 100's 0597 0009 01 ( ) 0.2 mg tabs 100's
0083 0149 30 ( ) 50/50 caps 100's	42987 110 16 ( ) Memorette 3 $\times$ 28 ea.	Compazine (SK & F)
Apresoline (Ciba)	Bricanyl (Merrell-Dow)	0007 3362 03 ( ) 25 mg suppos. 12's
0083 0039 30 ( ) 25 mg tabs 100's	0186 0725 05 ( ) 2.5 mg tabs 100's	0007 3366 20 ( ) 5 mg tabs 100's
0083 0073 30 ( ) 50 mg tabs 100's	0186 0750 05 ( ) 5.0 mg tabs 100's	0007 3367 20 ( ) 10 mg tabs 100's

Corgard (Squibb)	Donnatal (Robins)	Isordil (Ives)
0003 0207 50 ( ) 40 mg tabs 100's 0003 0241 50 ( ) 80 mg tabs 100's 0003 0208 50 ( ) 120 mg tabs 100's	0031 4221 29 ( ) gallon 0031 4250 63 ( ) tabs 100's	0082 4152 01 ( ) 5 mg tabs 100's 0082 4153 01 ( ) 10 mg tabs 100's 0082 4154 01 ( ) 20 mg tabs 100's
	Dyazide (SK & F)	0082 4134 01 ( ) 20 mg tabs 100 s 0082 4125 01 ( ) 40 mg Tembids 100's
Cortisporin (Burroughs Wellcome)  0081 0199 92 ( ) Otic soln 10 ml	0484 3590 22 ( ) caps 100's	
0081 0198 92 ( ) Otic sum 10 ml	Dycill (Beecham)	K-Lor (Abbott)
Coumadin (Endo)	0029 6351 30 ( ) 250 mg caps 100's 0029 6352 30 ( ) 500 mg caps 100's	0074 3611 01 ( ) 20 mEq. 30's
0056 0170 70 ( ) 2 mg tabs 100's	002) 0332 30 (	K-Lyte (Mead Johnson)
0056 0171 70 ( ) 2.5 mg tabs 100's 0056 0172 70 ( ) 5 mg tabs 100's 0056 0173 70 ( ) 7.5 mg tabs 100's 0056 0174 70 ( ) 10 mg tabs 100's	E-Mycin (Upjohn) 0009 0103 02 ( ) 250 mg tabs 100's 0009 3176 01 ( ) 333 mg tabs 100's	0087 0760 01 ( ) Lime tabs 30's 0087 0761 01 ( ) Orange tabs 30's 0087 0772 41 ( ) DS lime 30's 0087 0771 41 ( ) DS orange 30's
Cuprimine (Merck, Sharp & Dohme) 0006 0672 68 ( ) 125 mg tabs 100's	E.E.S. (Abbott) 0074 5729 13 ( ) 400 Filmtabs 100's 0074 6306 16 ( ) 200 mg/5 ml 480 ml	<u>K-Lyte/Cl</u> (Mead Johnson) 0087 0766 41 ( ) Citrus tabs 30's
0006 0601 68 ( ) 250 mg tabs 100's	Elavil (Merck, Sharp & Dohme)	0087 0767 41 ( ) Fruit Punch tabs 30's
Dalmane (Roche)  0140 0065 01 ( ) 15 mg caps 100's 0140 0066 01 ( ) 30 mg caps 100's	0006 0023 68 ( ) 10 mg tabs 100's 0006 0045 68 ( ) 25 mg tabs 100's 0006 0102 68 ( ) 50 mg tabs 100's	<u>K-Tabs</u> (Abbott) 0074 7804 13 ( ) 10 mEq tabs 100's Kaochlor (Adria)
Darvocet (Lilly)	0006 0430 68 ( ) 75 mg tabs 100's	0013 3051 16 ( ) Eff tabs 60's
0002 0363 02 ( ) N-100 tabs 100's  Darvon (Lilly)	Elixophyllin (Berlex) 50419 120 10 ( ) 200 mg caps 100's	<u>Kaon</u> (Adria) 0013 3203 51 ( ) Elixir grape 480 ml
0002 0806 02 ( ) CPD 65 100'	50419 121 16 ( ) Elixir 480 ml 50419 123 10 ( ) 250 mg caps, SR, 100's	Kay Ciel (Berlex)
Deltasone (Upjohn)	Elixophyllin Kl (Berlex)	50419 145 16 ( ) Elixir 480 ml
0009 0045 01 ( ) 5 mg tabs 100's 0009 0193 01 ( ) 10 mg tabs 100's	50419 124 08 ( ) Elixir 480 ml	50419 144 30 ( ) Powder Packets 30's Keflex (Dista)
0009 0165 01 ( ) 20 mg tabs 100's 0009 0388 01 ( ) 50 mg tabs 100's	Hydrodiuril (Merck, Sharp & Dohme) 0006 0042 68 ( ) 25 mg tabs 100's	0777 0869 02 ( ) 250 mg pulvules 100's 0777 0871 02 ( ) 500 mg pulvules 100's
Demerol (Winthrop)	0006 0105 68 ( ) 50 mg tabs 100's	
0024 0335 04 ( ) 50 mg tabs 100's	Hygroton (USV)	Micro-K (Robins)
Demulen (Searle)	0070 0022 00 ( ) 25 mg tabs 100's	0031 5720 63 ( ) 8 mEq Extencaps 100's
0014 0071 07 ( ) 21 Compack, 6's	0070 0020 00 ( ) 50 mg tabs 100's 0070 0021 00 ( ) 100 mg tabs 100's	Minipress (Pfizer)
0014 0081 09 ( ) 28 Compack, 6's 0014 0151 07 ( ) 1/35 Compack-21, 6's 0014 0161 09 ( ) 1/35 Compack-28, 6's	Ilosone (Dista)	0069 4310 71 ( ) 1 mg caps 250's 0069 4370 71 ( ) 2 mg caps 250's
Depakene (Abbott)	0777 2315 05 ( ) 125 mg/5 ml 480 ml	0069 4380 71 ( ) 5 mg caps 250's
0074 5681 13 ( ) 250 mg caps 100's 0074 5682 16 ( ) 250 mg/5 ml syrup 480 ml	0777 2317 05 ( ) 250 mg/5 ml 480 ml 0777 0809 02 ( ) 250 mg pulvules 100's	Minizide (Pfizer) 0069 4300 66 ( ) 1 mg caps 100's
Diabinese (Pfizer)	Imodium (Janssen)	Minocin (Lederle)
0663 3930 66 ( ) 100 mg tabs 100's 0663 3940 66 ( ) 250 mg tabs 100's	50458 400 10 ( ) 2 mg caps 100's  Inderal (Ayerst)	0005 5300 23 ( ) 50 mg caps 100's 0005 5301 18 ( ) 100 mg caps 50's
Diamox (Stuart)	0046 0461 81 ( ) 10 mg tabs 100's	Modicon (Ortho)
0005 4465 13 ( ) 500 mg Sequels 30's 0005 4398 23 ( ) 125 mg tabs 100's	0046 0462 81 ( ) 20 mg tabs 100's 0046 0464 81 ( ) 40 mg tabs 100's	0107 1712 11 ( ) Dialpak, 21's 0107 1714 08 ( ) Dialpak, 28's
0005 4469 23 ( ) 250 mg tabs 100's	0046 0468 81 ( ) 80 mg tabs 100's	Moduretic 5/50 (MSD)
Dilantin (Parke Davis)	Inderide (Ayerst)	0006 0917 68 ( ) 100`a
0071 0362 24 ( ) 100 mg caps 100's	0046 0474 81 ( ) 40/25 tabs 100's	Monistat-7 (Ortho)
Dimetapp (Robins)	Indocin (MSD) 0006 0025 68 ( ) 25 mg caps 100's	0062 5431 01 ( ) 47 g. Cream
0031 2224 25 ( ) 480 ml 0031 2274 63 ( ) Extentabs 100's	0006 0023 08 ( ) 23 mg caps 100 s 0006 0050 68 ( ) 50 mg caps 100 s 0006 0693 31 ( ) SR caps 30 s	Motrin (Upjohn)  0009 0733 01 ( ) 300 mg tabs 60's
Diuril (Merck, Sharp & Dohme)	Insulin (Lilly)	0009 0750 25 ( ) 400 mg tabs 100's 0009 0742 03 ( ) 600 mg tabs 100's
0006 0214 68 ( ) 250 mg tabs 100's 0006 0432 68 ( ) 500 mg tabs 100's	0002 8310 01 ( ) U-100 CP-310 10 ml	Mycolog (Squibb)
Dolobid (Merck, Sharp & Dohme)	Isoptin (Knoll)	0003 0589 30 ( ) 15 g. cream
0006 0675 61 ( ) 250 mg tabs 60's 0006 0697 61 ( ) 500 mg tabs 60's	0044 1822 02 ( ) 80 mg tabs 100's 0044 1823 02 ( ) 120 mg tabs 100's	0003 0589 60 ( ) 30 g. cream 0003 0589 65 ( ) 60 g. cream
		10

FEBRUARY, 1983



Deborah Brosnan Cheugh & Clapham

David I Duffen mary Jane Hurley

Southwestern Oklahoma State University

University of Arizona

West Virginia University University of North Carolina

Remember the summer of '82?

Last summer, four young people joined The Upjohn Company as part of the NPC Pharmacy Internship Program.

They added to their educational process.... learned about manufacturing, quality control, pharmaceutical research, and marketing/sales.

We hope we answered their questions. Certainly, we took their suggestions to heart.

And when the 10 weeks were over, we parted knowing that we'll enjoy seeing each other in the years ahead.

And reminiscing about the summer of '82.



Nalfon (Dista)	Omnipen (Wyeth)	Slow-K (Ciba)
0777 0877 02 ( ) 300 mg pulvules 100	. , , , , , , , , , , , , , , , , , , ,	0083 0165 30 ( ) 600 mg tabs 100's
0777 2159 02 ( ) 600 mg tabs 100's	0008 0309 03 ( ) 500 mg caps 100's	Soma (Wallace)
Naprosyn (Syntex)	Ornade (SKF)	0037 2101 01 ( ) CPD tabs 100's
18393 272 42 ( ) 250 mg tabs 100's	0007 4421 15 ( ) Spansules 50's	
18393 273 42 ( ) 375 mg tabs 100's	0007 4421 25 ( ) Spansules 500's	Sorbitrate (Stuart)
18393 277 42 ( ) 500 mg tabs 100's	Ortho Novum (Ortho)	0038 0810 10 ( ) 5 mg Chew tabs 100's
Nembutal (Abbott)	0107 1351 07 ( ) 2 mg,-21	0038 0815 10 ( ) 10 mg Chew tabs 100's
0074 3114 01 ( ) 100 mg caps 100's	0107 1760 07 ( ) 1/35,-21	0038 0770 10 ( ) 5 mg oral tabs 100's 0038 0780 10 ( ) 10 mg oral tabs 100's
Nitro-Dur (Key)	0107 1761 07 ( ) 1/35,-28	0038 0820 10 ( ) 20 mg oral tabs 100's
0369 0305 28 ( ) 5 sq cm Disc 28's	0107 1331 14 ( ) 1/50,-21	
0369 0310 28 ( ) 10 sq cm Disc 28's	0107 1332 07 ( ) 1/50,-28	Sumycin (Squibb)
0369 0315 28 ( ) 15 sq cm Disc 28's	0107 1390 12 ( ) 1/80,-21 0107 1391 07 ( ) 1/80,-28	0003 0655 40 ( ) 250 mg caps 100's
0369 0320 28 ( ) 20 sq cm Disc 28's	0107 1770 15 ( ) 10/11, 6 × 21	0003 0763 40 ( ) 500 mg caps 100's
Nitrobid (Marion)		0003 0663 45 ( ) 250 mg tabs 100's 0003 0603 43 ( ) 500 mg tabs 100's
0088 1552 60 ( ) Oint. 2% 60 g.	Ovral (Wyeth)	0003 0003 43 ( ) 300 mg tabs 100 s
0088 1550 47 ( ) 2.5 mg caps 100's	0008 0056 01 ( ) Pilpak, 6 × 21	Synthroid (Flint)
0088 1551 47 ( ) 6.5 mg caps 100's	0008 2511 02 ( ) Pilpak, 6 × 28	0048 1040 03 ( ) 0.05 mg 100's
Nitual (Vramara Huban)	Ovulen (Searle)	0048 1070 03 ( ) 0.1 mg 100's
Nitrol (Kremers-Urban)	0014 0401 07 ( ) Compack, $6 \times 21$	0048 1090 03 ( ) 0.15 mg 100's
0091 5617 02 ( ) Oint. 2% 60 g.	0014 0421 09 ( ) Compack, 6 × 28	0048 1140 03 ( ) 0.2 mg 100's
Nitrospan (USV)		0048 1170 03 ( ) 0.3 mg 100's
0075 0150 00 ( ) 2.5 mg caps 100's	Pavabid (Marion)	
0075 0151 60 ( ) 6.5 mg caps 100's	0088 1555 47 ( ) 150 mg cap 100's	Tagamet (SKF)
Nitrostat (Parke Davis)	Paxipam (Schering)	0108 5012 20 ( ) 200 mg tabs 100's
0071 3001 15 ( ) Oint 2% 60 g.	0085 0251 04 ( ) 20 mg tabs 100's	0108 5013 20 ( ) 300 mg tabs 100's
0071 0883 24 ( ) 2.5 mg SR caps 100	's 0085 0538 04 ( ) 40 mg tabs 100's	Talwin (Winthrop)
0071 0884 24 ( ) 6.5 mg SR caps 100	's	0024 1921 04 ( ) 50 mg tabs 100's
0071 0569 24 ( ) 0.3 mg Subl 100's	Pen-Vee-K (Wyeth)	
0071 0570 24 ( ) 0.4 mg Subl 100's 0071 0571 24 ( ) 0.6 mg Subl 100's	0008 0036 04 ( ) 250 mg/5 mg 100 ml 0008 0036 05 ( ) 250 mg/5 mg 200 ml	Tedral (Parke Davis)
	0008 0059 02 ( ) 250 mg/s lig 200 lill 0008 0059 02 ( ) 250 mg tabs 100's	0710 0230 24 ( ) tabs 100's
Nordette (Wyeth)	0008 0390 01 ( ) 500 mg tabs 100's	Tegretol (Geigy)
0008 0075 01 ( ) Pilpak, 6 × 21 0008 2533 02 ( ) Pilpak, 6 × 28	Percocet-5 (Endo)	0028 0067 01 ( ) 200 mg tabs 100's
0008 2533 02 ( ) Plipak, 6 × 28	0060 0127 70 ( ) 100's	, , , ,
Norflex (Riker)		Tenormin (Stuart)
0089 0221 10 ( ) 100's	Percodan (Endo)	0038 0105 10 ( ) 50 mg tabs 100's
Norgesic (Riker)	0060 0135 70 ( ) 100's	0038 0101 10 ( ) 100 mg tabs 100's
0089 0231 10 ( ) 100's	Peritrate (Parke Davis)	Theodur (Key)
0089 0233 10 ( ) Forte 100's	0710 0004 24 ( ) 80 mg SA tabs 100's	0369 0804 01 ( ) 100 mg SA tabs 100's
Norinyl (Syntex)	Persantine (Boehringer Ingelheim)	0369 0805 01 ( ) 200 mg SA tabs 100's
42987 103 12 ( ) 2 mg, 3 × 20	0597 0017 01 ( ) 25 mg tabs 100's	0369 0803 01 ( ) 300 mg SA tabs 100's
42987 111 15 ( ) 1+35, 3 × 21	0597 0018 01 ( ) 50 mg tabs 100's	0369 0850 01 ( ) 50 mg caps 100's 0369 0812 01 ( ) 125 mg caps 100's
42987 111 16 ( ) 1+35, 3 × 28	0597 0019 01 ( ) 75 mg tabs 100's	0309 0812 01 ( ) 123 Hig Caps 100 s
42987 101 15 ( ) 1+50, 3 × 21		Theovent (Schering)
42987 101 16 ( ) 1+50, 3 × 28	Phenaphen (Robins)	0085 0753 01 ( ) 250 mg LA caps 100's
42987 102 15 ( ) 1+80, 3 × 21	0031 6257 63 ( ) w/Cod. #3 100's	Theregine (SVE)
42987 102 16 ( ) 1+80, 3 × 28	0031 6274 63 ( ) w/Cod. #4 100's	Thorazine (SKF)
Norlestrin (Parke Davis)	Phenergan (Wyeth)	0007 5074 20 ( ) 25 mg tabs 100's 0007 5076 20 ( ) 50 mg tabs 100's
0710 0904 11 ( ) 1/50, 5 × 21	0008 0519 03 ( ) Expect. 480 ml	0007 5070 20 ( ) 100 mg tabs 100's
0710 0901 11 ( ) 2.5/50, 5 × 21	0008 0520 03 ( ) Exp w/Cod 480 ml	
0710 0903 35 ( ) 1/50, 5 × 28	0008 0521 03 ( ) VC Exp. 480 ml 0008 0522 03 ( ) VC Exp w/Cod 480 ml	Tigan (Beecham)
0710 0905 35 ( ) 1/50+ Fe, 5 × 28 0710 0907 35 ( ) 2.5/50+Fe, 5 × 28	0000 0322 03 ( ) VC Exp w/Cou 460 III	0029 4082 30 ( ) 100 mg caps 100's
	994	
	Plaquenil (Winthrop)	0029 4084 38 ( ) 200 mg suppos 10's
Nordulate (Parke Davis)	Plaquenil (Winthrop) 0024 1561 04 ( ) 200 mg tabs 100's	0029 4084 38 ( ) 200 mg suppos 10's  Timoptic (MSD)
Nordulate (Parke Davis)	0024 1561 04 ( ) 200 mg tabs 100's	Timoptic (MSD)
Nordulate (Parke Davis) 0071 0918 19 ( ) 5 mg tabs 50's	0024 1561 04 ( ) 200 mg tabs 100's  Premarin (Ayerst)	Timoptic (MSD)  0006 3366 03 ( ) Opth Soln 0.25% 5 ml



## Research Roulette

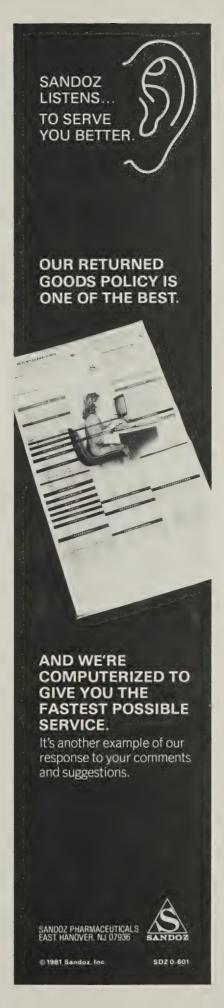
In 1981, the cost of developing a new chemical entity was \$77 million. Yet, three out of four new chemical entities marketed never recapture their R & D investment.

Surprising? Yes. But, the real surprise is that today's drugs consume only 8 percent of all health care costs as compared with 16 percent 40 years ago.



Eli Lilly and Company Indianapolis, Indiana 46285

Tofranil (Geigy)	Vibramycin (Pfizer)
0028 0011 01 ( ) 25 mg tabs 100's	0069 0940 50 ( ) 50 mg caps 50's
0028 0074 01 ( ) 60 mg tabs 100's 0028 0020 26 ( ) 75 mg PM caps 30's	0069 0950 50 ( ) 100 mg caps 50's
0028 0040 26 ( ) 75 mg PM caps 30 s 0028 0040 26 ( ) 100 mg PM caps 30's	Vibratab (Pfizer)
Folectin (McNeil)	0069 0990 50 ( ) 100 mg tabs 50's
0045 0412 60 ( ) 200 mg tabs 100's	Wyamycin (Wyeth)
0045 0414 60 ( ) 400 mg DC caps 100's	0008 0555 01 ( ) -E,200 mg/5 ml 480 ml
Folinase (Upjohn)	0008 0556 01 ( ) -E,400 mg/5 ml 480 ml
0009 0070 02 ( ) 100 mg tabs 100's	Wymox (Wyeth)
0009 0114 05 ( ) 250 mg tabs 100's	0008 0559 01 ( ) 250 mg caps 100's
0009 0477 06 ( ) 500 mg tabs 100's	0008 0560 01 ( ) 500 mg caps 50's 0008 0557 02 ( ) 125 mg/5 ml 100 ml
Transderm-Nitro (Ciba)	0008 0557 03 ( ) 125 mg/5 ml 150 ml
0083 2105 07 ( ) -5,7 Systems	0008 0558 02 ( ) 250 mg/5 ml 100 ml
0083 2110 26 ( ) -10,30 Systems	0008 0558 03 ( ) 250 mg/5 ml 150 ml
Fransderm-Scop (Ciba)	Xanax (Upjohn)
17314 4345 1 ( ) Package, 2 units, 6's	0009 0029 01 ( ) 0.25 mg tabs 100's
<u>Cranxene</u> (Abbott)	0009 0055 01 ( ) 0.5 mg tabs 100's
0074 3417 13 ( ) 3.75 mg caps 100's 0074 3418 13 ( ) 7.5 mg caps 100's	0009 0090 01 ( ) 1.0 mg tabs 100's
0074 3418 13 ( ) 7.5 mg caps 100 s 0074 3419 13 ( ) 15 mg caps 100's	Zaroxolyn (Pennwalt)
Friavil (MSD)	0018 0975 71 ( ) 2.5 mg tabs 100's
0006 0914 68 ( ) 2-10 tabs 100's	0018 0850 71 ( ) 2.5 mg tabs 100 s
0006 0921 68 ( ) 2-25 tabs 100's	0018 0835 71 ( ) 10 mg tabs 100's
0006 0934 68 ( ) 4-10 tabs 100's	Zomax (McNeil)
0006 0946 68 ( ) 4-25 tabs 100's	0045 0938 60 ( ) 100 mg tabs 100's
<u>Crinalin</u> (Schering)	Zovirax (Burroughs Wellcome)
0085 0703 04 ( ) Repetabs 100's	0081 0993 94 ( ) Oint. 5% 15 g.
<u>Cuinal</u> (Lilly)	Zyloprim (Burroughs Wellcome)
0002 0666 02 ( ) 200 mg pulvules 100's	0081 0996 55 ( ) 100 mg tabs 100's
Cuss-Ornade (SKF)	0081 0998 55 ( ) 300 mg tabs 100's
0007 5272 56 ( ) Modified, 480 ml	
0007 5273 15 ( ) Spansules, 50's	
<u>Sylox</u> (McNeil)	
0045 0525 60 ( ) 100's	
7-Cillin (Lilly)	
0002 2307 48 ( ) 125 mg/5 ml 100 ml	
0002 2307 89 ( ) 125 mg/5 ml 200 ml 0002 2316 48 ( ) 250 mg/5 ml 100 ml	
0002 2316 48 ( ) 250 mg/5 ml 200 ml	
0002 0329 02 ( ) 250 mg tabs 100's	
0002 0346 02 ( ) 500 mg tabs 100's	
Valisone (Schering)	
0085 0929 04 ( ) Cream 0.01% 15 g.	
0085 0929 08 ( ) Cream 0.01% 60 g. 0085 0898 04 ( ) Oint. 0.1% 15 g.	
0085 0898 06 ( ) Oint. 0.1% 60 g.	
'alium (Roche)	
0140 0004 01 ( ) 2 mg tabs 100's	
0140 0005 01 ( ) 5 mg tabs 100's	
0140 0006 01 ( ) 10 mg tabs 100's	
(Roche)	
0004 0140 64 ( ) 15 mg caps 30's	
ancenase (Schering)	
0085 0041 06 ( ) Inhaler 16.8 g	
anceril (Schering)	
0085 0736 04 ( ) Inhaler 16.8 g	



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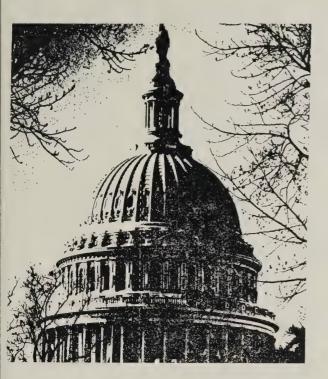
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## rom the M.Ph.A. Legislative Committee: Heres what you can do to help



## REGISTRATION AND VOTING

- Register to vote and encourage family and friends to register also.
- Check out absentee registration rules with your local registrar if you are out of town frequently.
- Vote in primary and general elections and encourage family and friends to vote also.
- 4. Vote by absentee ballot if you are going to be out of town.

### PARTY AND CAMPAIGN ORGANIZATION

- 1. Get active in a political party of your choice.
- 2. Serve on a political party committee.
- 3. Work on a candidate's campaign committee.
- 4. Volunteer to:
  - a. help a candidate or party address and stuff envelopes
  - b. distribute campaign liturature in your neighborhood
  - c. prepare voter index cards and lists for campaigns
  - d. work in a phone bank to recruit other party workers or get people out to vote on Election Day
  - e. organize rallies and fund-raising events
  - f. type letters
  - g. act as a poll watcher
  - h. host a coffee/tea party for a candidate
  - i. design campaign posters and ads
  - j. give rides to the polls
  - k. be a precinct worker or a block captain
  - I. write campaign material
  - m. babysit for voters with small children on Election Day
  - o. decorate meeting halls
  - help publicize campaign and party events through the media

### FUNDRAISING

- Contribute financially to a political party or candidate and solicit funds from others.
- Volunteer your services to provide expertise in election laws, accounting, fund-raising, marketing and promotion.

### SUBSTANTIVE ACTIVITIES

- Keep informed on vital issues facing the community and government.
- 2. Know the candidates and their qualifications.
- Attend meetings of the city council, school board, or other public boards.
- Communicate on issues with your elected representatives
   — local, state and national.
- Write letters to the editor stating your position on a particular issue.
- 6. Hold appointive or elective office in government.



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## Avery special offer



...from Parke-Davis—help you help physicians care elderly patients.

In 1900 only 4% of the plation was over 65. In 19 this figure rose to 10%, by the year 2000 it will be 25%. In this same time 19 prescriptions for this sement of the population rise from the current 25 an astounding 75%!

As a pharmacist, you kn only too well that the eld patient presents special lems. Recognizing this, Parke-Davis are initiatin program to help you he your elderly customers. call this program Elder-Soon you will be receiving mailing offering you a k taining a free-standing counter display to hold of the pamphlet "As We Older." The mailer itself up to a poster urging of customers to ASK you, t pharmacist, to allay the ural anxiety and someti confusion with regard to medications. The bookle prepared by a prestigio university, discusses col complaints and problem associated with the elde and includes a section f your customers to list n cations. It also includes for your store stamp for gency service.

The older customer nee little more patience and comforting, professiona assurance that only YOI

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to help <u>you</u>, our

Confused about your medicines Got a question?

Associative pharmacist 11 do ms be 1 comment and questions ches is with your

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## **ABSTRACTS**

Excerpted from PHARMACEUTICAL TRENDS, published by the St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor and Leonard L. Naeger, Ph.D., Associate Editor

### RIMANTADINE:

In 1966 amantadine (Symmetrel) was licensed for use in the prophylaxis of certain viral infections. An analog of amantadine, rimantadine, has been used for several years as experimental drug and results from various experiments indicate that the newer drug may be less toxic than amantadine. The major complaints of patients receiving these drugs are associated with the central nervous system. *N Engl J Med*, Vol. 307, #10, p. 580, 1982.

## **CALCIUM BALANCE:**

The amount of calcium in the plasma of arthritic patients receiving steroids and NSAID were measured and compared with results obtained from control subjects. The treated group showed a reduction in plasma calcium which could ultimately result in osteoporosis and an increased likelihood of bone fracture. *Br Med J*, Vol. 285, #6338, p. 330, 1982.

## ISONIAZID-CARBAMAZEPINE INTERACTION:

Isoniazid has been shown to act as an enzyme inhibitor and is associated with increased levels of phenytoin (Dilantin) in epileptic patients. A similar observation was made when the anti-tubercular agent was given to patients receiving carbamazepine (Tegretol). Since this anticonvulsant has serious side-effects, the use of these drugs together should be avoided or the patient should receive close monitoring. *Br Med J*, Vol. 285, #6337, p. 261, 1982.

## **ENDOTOXIN SHOCK:**

In order to investigate the hypothesis that prostaglandin formation contributes to the symptoms associated with endotoxin shock, dogs were placed in that condition artificially and ibuprofen (Motrin), a specific prostaglandin inhibitor, was administered. The drug protected the animals against the hypotension, acidosis, and depression of cardiac index which is normally associated with endotoxin shock. It has been suggested that prostaglandin activity may play a significant role in the mortality associated with endotoxin shock and that clinicians may consider the use of an inhibitor in these situations. *J Clin Invest*, Vol. 70, #3, p. 536, 1982.

### TOCAINIDE:

Tocainide and mexiletine are used orally to treat patients with ventricular arrhythmias. The drugs offer no advantage over lidocaine in an emergency situation, but are of benefit when oral therapy is desired. Tocainide (Tonocard-Astra) is available in Great Britain where its most frequently cited side-effect is gastrointestinal dis-

turbance, appearing in up to 70% of those receiving the antiarrhythmic agent. Tocainide is said to give no defined advantage over mexiletine and in most cases administration of mexiletine is less expensive. *Drug Ther Bull*, Vol. 20, #14, p. 53, 1982.

## PRAZOCIN:

Some patients receiving the alpha-one blocking agent prazocin (Minipress) experience a rapid drop in blood pressure after the initial dose. Because of the exaggerated response, the drug was used as a diagnostic agent for pheochromocytoma. It not only appears that it might be useful in diagnosing these conditions, but when combined with propranolol, it may represent an effective way to temporarily control symptoms associated with pheochromocytoma. Clin Pharmacol Ther, Vol. 32, #3, p. 156, 1982.

## CAFFEINE:

Caffeine is found in many commonly ingested foods and beverages as well as in some drug products. Limited information is available concerning the metabolism of this stimulant in humans so an extensive study was designed to resolve the issue of caffeine metabolism. The major metabolite of caffeine was found to be 5-acetylamino-6-amino-3-methyl uracil. This accounted for 35% of the administered dose while 1-methyl xanthine (18%) and methyluric acid (15%) were identified as other principle metabolites. *Drug Metab Dispos*, Vol. 10, #4, p. 417, 1982.

## **RANITIDINE:**

The antiadrogenic effects of cimetidine (Tagmet) are responsible for producing impotence, breast tenderness, and gynecomastia. A group of men who suffered these consequences of long-term therapy were switched to ranitidine, another H-2 antagonist. Acid secretion was reduced while taking the newer drug, but side effects associated with the antiandrogen effect of cimetidine disappeared. *J Am Med Assoc*, Vol. 248, #6, p. 621, 1982.

## **BUSPIRONE:**

A new anxiolytic agent, buspirone, was studied in the absence and presence of alcohol and results were compared with similar findings obtained in patients receiving lorazepam. Alcohol impaired psychomotol skills in patients receiving lorazepam, but the reduction in ability to perform was not seen in patients receiving buspirone. Much more work is needed to confirm this indication of safety in presence of alcohol. *Clin Pharmacol Ther*, Vol. 32, #2, p. 201, 1982.

## STEOMALACIA:

Patients with a need for constant dialysis in order to educe overt systemic toxicity may experience oseomalacia, dementia, and microcytic anemia secondry to elevated levels of aluminum ions in the blood. Two patients with severe osteomalacia were treated with desferrioxamine to chelate the aluminum ions. Vithin six months, these patients required no more nalgesic therapy and were able to return to normal ctivity. Lancet, Vol. II, #8294, p. 343, 1982.

## **IEMODIALYSIS:**

Regular hemodialysis can cause loss of many subtances from the plasma, including some trace elenents. Investigators felt that sexual dysfunction due to educed gonadal activity was secondary to a dialysis-nduced deficiency in zinc. Readministration of zinc alts to these patients reversed the symptoms and thus night be recommended for patients who require regular nemodialysis. *Ann Intern Med*, Vol. 97, #3, p. 357, 982.

## ANCOMYCIN:

In 1958, a promising anti-staphylococcal agent, vanomycin, was introduced for clinical use. Two years ater, methicillin was marketed for the same kind of infection and vancomycin fell into relatively obscurity. Today the drug has re-emerged as a valuable agent for reating methicillin-resistant staphylococcal infections, oseudomembraneous colitis and endocarditis. It is quite expensive and that factor may prevent overuse and derelopment of resistant strains. The drug is bacteriocidal in that it inhibits cell wall synthesis via a mechanism dissimilar to penicillin. *Br Med J*, Vol. 284, #6328, p. 508, 1982.

## ISH OIL AND PLATELET ACTIVITY:

It has been noted that people living in areas where ish serves as the primary food have a very low incidence of ischemic heart disease. To examine the possible benefit from this diet, patients had their platelet status evaluated and then were given fish oil (eicomapentaenoic acid) in daily doses of 3.5 Grams daily. After five weeks re-evaluation indicated that there was a decreased likelihood of platelet/vessel wall interaction. Cancet, Vol. I, #8284, p. 1269, 1982.

## IMOLOL:

Potassium levels in the serum were measured before and after 8 days of timolol therapy in a group of voluneers. Although the non-specific beta adrenergic blocking agent increased the amount of potassium appearing in the urine, plasma levels did not change suggesting hat potassium is lost from inside the cell. Clin Pharmacol Ther, Vol. 31, #6, p. 691, 1982.

## MOKING IN YOUNG ADULTS:

Many of the consequences of cigarette smoking are seen after many years of use. Studies recently conducted in young adults indicate that acute respiratory illness is much more common in smokers than in non-smokers. *J Am Med Assoc*, Vol. 248, #2, p. 181, 1982.

## **BLADDER RECEPTOR SITES:**

The bladder contains at least three different types of receptor sites activated by various agents which alter autonomic tone. The neck and base of the bladder contain alpha receptors which, when activated, promote muscle contraction in that area. In the fundus or detrusor portion of the organ are found beta-2 adrenergic receptors whose activation cause muscular relaxation to occur. However, there is a predominance of cholinergic receptors all over the bladder muscle suggesting cholinergic tone is the major influence on bladder contractility. Thus colinergic receptors exceed adrenergic receptors by 150 times in the urinary bladder. *J Pharmacol Exp Ther*, Vol. 221, #3, p. 598, 1982.

## **FUROSEMIDE-GENTAMICIN INTERACTION:**

Although furosemide (Lasix) exerts a potent natruretic effect, it has been reported to actually reduce glomerular filtration rates. Since this could allow for the accumulation of drugs which are excreted primarily via this route, a group of patients receiving gentamicin and furosemide were studied for several days. It was noted that the diuretic did reduce the clearance of both insulin and gentamicin thus increasing the likelihood of toxicity. These drugs should be used together cautiously since they both can cause ototoxicity. *J Clin Pharmacol*, Vol. 22, #5 and #6, p. 254, 1982.

## **CLOFILIUM:**

Clofilium is a new synthetic agent which selectively increases refractoriness of cardiac tissue. The drug was found to be concentrated in cardiac tissue thus indicating that plasma levels may not accurately reflect the biological response in the heart. The drug is still under investigation. *J Pharmacol Exp Ther*, Vol. 221, #3, p. 584, 1982.

## MIDAZOLAM:

Midazolam is an ultrashort acting benzodiazepine derivative which has a half-life of from 1 to 3 hours. The drug can be used to induce sleep and most of its activity is lost by the next morning. This is thought to reduce the likelihood of drowsiness during the day and will be less likely to cause physical dependence. *Clin Pharmacol Ther*, Vol. 32, #1, p. 107, 1982.

## **CLAVULANIC ACID:**

More experiments have been conducted using clavulanic acid and amoxicillin. Clavulanic acid is a beta lactamase inhibitor and thus restores sensitivity of normally resistant bacteria to the antibiotic. The combination of 250 mg amoxicillin and the 125 mg clavulanic acid was used successfully to treat both urinary and respiratory tract infections. *Clin Ther*, Vol. 4, #6, p. 442, 1982.

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## calendar

Feb 13 (Sun)—BMPA Dinner Dance

Feb 24 (Thurs)—MPhA Board Meeting

Mar 10 (Thurs)—BMPA membership Meeting with Manufacturers

Mar 13 (Sun)—"Communications and the Elderly" Center for Aging/MPhA Seminar

Mar 27 (Sun)—"Arthritis" CECC Seminar

April 10-13—APhA Meeting, New Orleans

April 17—MPhA Spring Regional Meeting (Watch for Details)

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Official Journal of The Maryland Pharmaceutical Association

March, 1983 VOL. 59 NO. 3



## Alcoholism in the Geriatric Population

— Linda Gray.

The Division of Drug Control

T's and Blues

— Karen B. Disney, P.D.

Soda Jerks: Licensed Fizzicians!

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The 1983 Spring Regional Meeting
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## THE MARYLAND PHARMACIST

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MARCH, 1983

VOL. 59

NO. 3

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One, two, three or more. Nurses have theirs. Doctors have had theirs. Tavern owners have theirs. Farmers have theirs. Lawyers have more than their share. Pharmacy has none. Where is our Senator or Delegate in the Annapolis General Assembly. We have been after one for as many years as I can remember. If we had a pharmacy representative, we would improve ourselves by 100 percent. Somewhere in this wide state we should be able to find a slot for a pharmacist. Gosh knows we have enough capable men and women. There have been candidates in the past and they did receive a certain amount of support but not the whole-hearted, bottom of the pocket support needed to win.

We have the time now to find a few candidates who may have a chance to win, but will we have the support? What does matter if we find our candidate from the Eastern Shore, Western Shore or Western Maryland. What we need to do is make it an accomplished fact. Your Association should become involved, the students of our school should become involved, since they also would become beneficiaries; yet it is Pharmpac that should take up the staff and lead us to a political land. It is time to stop diluting our war chest on various and sundry candidates and get whole-heartedly behind a few good men or women of our own. The next election is really not too far away to start now. Let's find a few qualified people and get behind them. What about it Pharmpac?.

PRESIDENT

# Alcoholism in the Geriatric Population

By Linda Gray

In the past decade, the medical community has strived to reassess its views and its treatment of the alcoholic patient. Even in the health profession, the concept that alcoholism is a disease, which is not curable but treatable, has to be instilled and reiterated among its practitioners.

Currently, about 11% of the population in the United States is over the age of 65 years, approximately 2 million people. By the year 2000, this portion is estimated to reach 20% of the total population. elderly population rapidly expands, we in the health profession must keep a growing awareness of the special needs and problems of the elderly. Among the most recent facts to emerge is the realization that there exists an alarming incidence of alcoholism among geriatric people. Hartford and Price (1, 2) estimate 10 to 15 % of the elderly can be classified as alcoholics, while others have found that greater than 20% of the patients in treatment for medical or psychiatric problems or residing in nursing homes are alcoholics. (3,4) This is supported by the National Institution on Alcohol Abuse and Alcoholism (1978) study that indicates 2 to 10% of the population over the age of 60 and 20% of the nursing home population suffer alcoholism. (5)

Although one cannot stereotype a candidate for alcoholism, Meyers (6) found that the problem drinker tends to be "young-old" (60 to 70 years of age), native-born, and male. When discussing personal relationships, both past and present, alcoholics usually exhibit a lesser degree of satisfaction than their non-alcoholic counterparts.

Linda is a graduating Pharmacy Student who completed this article as part of a special studies extern rotation in the Association office.

According to Schuckit (7), alcoholics tend to be younger (young-old), are less likely to be married with increased rates of separation or divorce. More often they are male and live alone. Rather surprisingly, they also possess higher levels of education and occupational functioning. Smart and Liban (5) gather that older drinkers generally consume less alcohol, but are more often daily drinkers (10) and more often go on binges.(11)

Kramer, McCourt, and Schneider (8, 9) found that alcoholism peaks at 40 years of age, gradually declines, and then rises again at 70 years of age, when many elderly turn to alcohol for the first time.

# Signs and Symptoms of Alcoholism

In dealing with this dilemma, certain guidelines and goals must be set and obtained. As with any disease, it is crucial that the health care practitioner be aware of the signs and symptoms of alcoholism. Too often the alcoholic will go undetected because the professional, as well as the family and friends of the patient, will attribute the obvious signs and symptoms to other ailments. Kidd (12) feels that often the physician is so intent on discovering a medical disturbance that he may ignore any psychopathic abnormality.

But the alert health care provider can identify many of the causative and resultant aspects of alcoholism via a in-depth patient consultation and a thorough physical examination.

When taking the patient history, some information may be particularly helpful. Recent bouts of depression, loneliness, and/or sleeplessness are often incentives to

imbibe alcohol. Indeed, many physicians may even advise their patients to have a drink before retiring in the evening, but care should be taken when issuing this advice. As discussed later, alcohol will more likely disrupt sleep patterns, thereby making this "prescription" harmful.

Confusion or disorientation should never be excused as simply a sign of old age. Drug therapy as a cause should be ruled out if possible; alcoholism could very well be

the reason for this state.

Among the physical signs of an chronic imbiber are the bloated face with or without telangiectases, bloodshot eyes, acne rosea, the telltale odor of alcohol consumption, and red, raw gums that are inclined to bleed. Other signs include warm, moist skin; a fast, pounding pulse; palmar erythema and gouty tophi. Obesity, accentuated with a pot belly, gynaecomastia and striae, is commonly observed. Scarring and recurrent bruising indicate falls (13) which, though more common among the elderly, should not be dismissed as expected occurrences of old age.

These signs are in no way exclusive for alcoholism, but the practitioner, whether physician, nurse, dentist, or pharmacist, should readily recognize them and attempt

to identify their underlying reason.

As with the younger alcoholic, trust and confidence are of utmost importance and must be instilled before progress can be



Health care individuals should not for a moment underestimate their importance when dealing with the elderly. These patients often have no family or friends to help and support them. The younger alcoholic most often seeks help only after the prompting of his family, friends, and business associates. But the older problem drinker usually has limited family and social interactions, whether by choice or by circumstance. Therefore, the practitioner may be the first to expect and confront him with the possibility of alcoholism. And this is usually the most critical step in treating the alcoholic patient.

# Physiological Aspects of Drinking

The initial result of alcohol consumption is a loss of coordination and slower rates of reaction. (2) Alcohol can compound already existing health problems. Chronic drinking may cause a host of complications, ranging from hypomagnesemia; hypocalcemia, which is of particular importance in patients prone to osteoporesis; avitaminosis, especially thiamine and including niacin, riboflavin, folic acid, and vitamins B-6 and C.(14) Avitaminosis may also be due to poor dietary intake, malabsorption syndrome, and progressive liver damage, all of which may be related to alcoholism.(2)

Other end organ damage includes esophagitis, erosive gastritis, pancreatitis, cardiomyopathy, and cirrhosis of the liver. Chronic alcohol consumption may also be a cause of cancer of the mouth, pharynx, and esophagus, in addition to its being linked to chronic brain syndrome. (2)

Among the known physiologic changes of aging are a decrease in body surface area, lean body mass, and body water content. There exists an age-related increase in blood ethanol levels, but this is not thought to be due to a decrease in the rate of metabolism of ethanol by the liver.(15) However, there is a decrease in the blood flow to the liver in the elderly. Ethanol is rapidly distributed in the body water after ingestion, and the elderly have a decreased body water content. This combination of decreased

body water and lean body mass are the probable causes of this increased blood ethanol concentration.(1)

Many elderly already complain that they often have trouble falling asleep, and once asleep, have difficulty staying asleep. They are known to have shorter REMs. (19) As mentioned earlier, many physicians may recommend some alcohol before bed to induce sleep. But ethanol, while it decreases sleep latency, may actually reduce REM sleep, causing the patient to awaken more

frequently during the night.(17)

The chemical interaction of ethanol and the components of the cell membrane results in a decrease in its permeability and ion conductance, which disrupts cellular metabolism. High ethanol concentrations may also disturb the release of neurotransmittors such as acetylcholine at the synapse. Ethanol may suppress either the excitatory or the inhibitory mechanism of the nervous system, though there seems to be a relatively greater suppression of the excitatory transmissions. (1)

Certain regions of the brain are more vulnerable to the effects of ethanol such as the reticular activating system, basal ganglia, hippocampus, and neocortex. areas succumb to neuronal loss due to aging at a greater rate than other areas of the brain, and the result is a deficiency in cognitive and motor skills. Even moderate drinking in younger people will impair these skills. Parker and Noble (18) concluded that social drinking exacts a greater toll on the cognitive ability of older than younger patients. Abstract and adaptive thinking, as well as concept formation, are all significantly reduced with aging and alcohol consumption. In fact, alcohol abuse may actually mimic deficiencies associated with the normal aging process. (19) The practitioner must be very alert to this possibility in properly evaluating his elderly patient.

# The Pharmacist's Role

The pharmacist plays an important role in helping the older patient, particularly in the counseling of drug interactions. Hartford (1) estimates that over 150 of commonly prescribed drugs have potential alcohol interactions, which vary depending on the drug itself and the amount of alcohol consumed. A common acute effect is impaired hepatic metabolism, resulting in a prolonged drug half-life and potentiated side effects such as increased sedation with barbiturates.

A chronic effect seen is the induced microsomal enzyme activity, thereby enhanc-

ing drug metabolism, which would require an increased dose to achieve that drug's desired therapeutic effect. Examples of drugs that interact with ethanol in this manner are tricyclic antidepressants, hypoglycemic agents, and aspirin. (1)

# Treatment, Care and Education

Health care providers should be educated to identify and distinguish the signs and symptoms of alcoholism. Once they perceive such, they must establish and maintain a confidential rapport with their patient to insure successful treatment.

Elderly alcoholics generally respond well to treatment. In a study conducted by Neubuerger, it was found that "older Medicare patients receiving retirement benefits had almost as successful an outcome (52 %) as the total patient population (54 %). (20) The "ideal" candidate for successful treatment was married and employed.

Laymen, particularly the elderly population should be alerted to the potential dangers of alcoholism. They should be aware of how alcohol can hurt them and even of what signs to look for in their friends, should they suspect a problem. The families of elderly patients could benefit from this education also.

It is important to keep in mind that the geriatric population has special social, economical, physiological, and nutritional considerations of its own. These needs must all play a part when designing rehabilitation programs for the elderly alcoholic.

Working with already existing programs for the elderly will facilitate education. Incorporating the elderly as the teachers has also proved innovative and worthwhile, as exemplified by a group of older citizens who, after 18 hours of training, went into their community and shared their knowledge. (21).

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# calendar



March 10 (Thursday)—MSHP Meeting, Sinai Hospital

March 10 (Thursday)—BMPA Meeting—Quality Inn, Pikesville

March 13 (Sunday)—Communications and the Elderly MPhA Seminar

March 15-17—NARD Legislative Meeting—Washington

March 27 (Sunday)—Arthritis—CECC Seminar

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Lawrence C. Weaver, Academia Minneapolis, MN, 1974-1976





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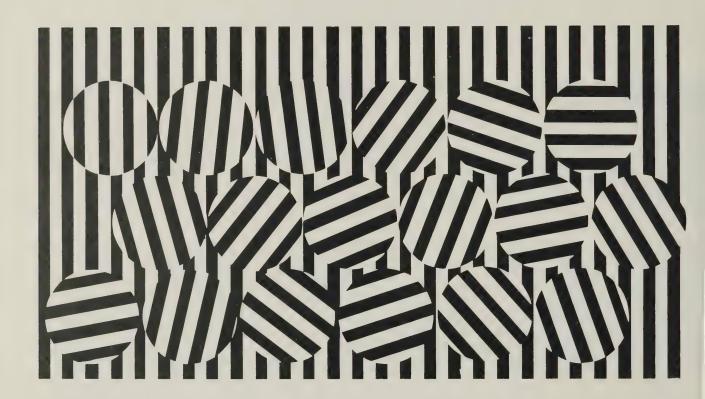
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Marilyn L. Slotfeldt, Clinical Services Portland, OR, 1982-



# Living up to its Name The Division of Drug Control—No Longer just 'Pharmacy Control'



What a difference a few years makes. Just a short time ago MPhA Board meetings and general meetings were filled with discussions of ways to make the Division of Drug Control more responsive to the problems of pharmacy—notably to stop the nitpicking over the horrors of leaving off an occasional red C and become more concerned with real drug problems such as illicit traffic, as well as working with the profession to police our few bad actors.

But that was in a different era, with Drug control in Environmental Matters, another area of the Department of Health and Mental Hygiene and answerable to persons more atuned to clean air standards than to the ways of medical professionals.

Today, Charles H Tregoe, Chief, Division of Drug Control is answerable to the Regulation and Policy Analysis Administration, as is the Maryland State Board of Pharmacy. This makes it possible for the two agencies which have the most enforcement control over the profession to work together, instead of experiencing the friction of the past.

Tregoe, a product of Northwest Baltimore, received his BS in Pharmacy at the University of Maryland in 1959 and his JD in law at the U of Baltimore in 1968, and has been head of the department since succeeding Francis Balassone after his untimely death. It had been expected that Balassone would have moved up in the Environmental Matters Department, with Tregoe replacing him anyway. Had this scenerio been played out, Pharmacy would not have experienced the trauma of those few years.

Freed from earlier mandates to inspect pharmacies twice a year to make sure that the doctor's address was repeated on each and every prescription as the type of enforcement the previous department head felt was important, the 11 inspectors have been able to work with

Tregoe, the Board of Pharmacy, and federal, state and local law enforcement officials on a variety of drug related concerns. Never in his twenty years with the department has the authority spread over so wide a range of issues.

The area of stress clinics with interesting new uses for methaquallone was a target for Drug Control and, with a great deal of leg work, has apparently been brought under control. Tregoe credits pharmacists who were not willing to fill the questionable prescriptions as a great aid in containing the problem.

Another public health problem is the manufacture and sale of "look-alikes", oral dosages manufactured to look like uppers and downers but containing OTC substances such as caffeine. With passage of a June 1981 law banning the look-alikes, all but one distributor left the state. Tregoe and the Baltimore City Police combined forces to confiscate the illegal substances of the remaining distributor.

The most recent problem for the Division was checking all areas where OTC's were sold to be sure that the Tylenol in the State was not adulterated after the deaths in Chicago. Again, pharmacies helped by checking stock and notifying non-drug store outlets of the alert.

Samples were tested by Nathan Levin, head of the Pharmaceutical Chemistry section in the Laboratories Administration. In one case, a Canadian visitor to the inner harbor was hospitalized after taking Tylenol for what turned out to be anxiety over his sudden illness. Leon Weiner of the Drug Control Staff, after his normal working hours, took a sample for analysis and reported no tamporing. When informed, the visitor recovered nicely and Drug Control was credited with possibly preventing a heart attack or stroke due to anxiety.

The Division still spends a great deal of time in pharmacies—performing opening inspections, supervising closings of pharmacies and disbursement of stocks, doing routine annual audits and accountability audits—but the mood is more of working with the pharmacist and educating him to the laws than the witch hunts for insignificant errors that characterized the department before Tregoe was able to bring the Division into its present Administration. There is a realization that most drug problems facing the public come from other areas than Pharmacies and a determined attempt to cover these areas is being made—often with help from the profession, particularly the State Board of Pharmacy.

The staff of Drug Control consists of Tregoe, who is a past president of the School of Pharmacy Alumni Association; John J. O'Hara, a 25 year veteran with the department; Leon Weiner, also a past president of the Alumni Association, who joined the department in 1958; Thomas H. Kelly, an inspector since 1956; Daniel A Santoni, since 1968, Richard C. Crane, a 10 year inspector; Jack H Freedman, since 1976, and Robert Chang, since 1980. All the inspectors are pharmacists

and all graduated from the U of Maryland except Chang, who studied at the Philadelphia College of Pharmacy.



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# **Emergency Pharmacy Services**

Emergency pharmacy services are sometimes needed when most pharmacies are closed. The pharmacies listed below have indicated their willingness to provide such emergency services subject to certain conditions.

These two pharmacies are open 24 hours a day:

Peoples Drug Store #45 7939 New Hampshire Ave. Langley Park, MD 20783 (301-434-3121)

Peoples Drug Store #16 1121 Vermont Ave., N.W Washington, DC 20005 (202-628-0720)

The pharmacies listed below have offered to provide emergency services if the following conditions are met:

- 1. A true emergency exists;
- The authorized prescriber contacts the pharmacy to request emergency service; and
- No one enters the pharmacy without a police officer present. Contact the persons indicated for further details.

Beachy's Pharmacy Main St. Grantsville, MD 21536 Gerry Beachy PD (301-895-5387)

Monument Pharmacy 2443 East Monument St. Baltimore, MD 21205 Terry P. Crovo PD (301-522-1099) Gerald Schonfeld PD (301-655-5295)

Preston Pharmacy Main St. Preston, MD 21655 Budne C. Reinke Pl

Budne C. Reinke PD (301-673-2318)

Rite-Aid Pharmacies Wayne Dyke PD (301-667-4491) Marvin B. Jaslow PD (301-922-3126)

Either Dr. Dyke or Dr. Jaslow is authorized to arrange for emergency services at the Rite-Aid Pharmacies at the following locations:

Rite-Aid Pharmacy #360 Annapolis Blvd. & M St. Glen Burnie, MD 21060

Rite-Aid Discount Pharmacy #374 (open until 11 p.m.) 548 Baltimore National Pike Ingleside Shopping Center Baltimore, MD 21228 Rite-Aid Discount Pharmacy #381 Merritt Park Shopping Center 1762 Merritt Blvd. Baltimore, MD 21222

Rite-Aid Discount Pharmacy #372 6867 Lock Raven Blvd.—Hillendale Baltimore, MD 21204

Rite-Aid Discount Pharmacy #382 11917-19 Reisterstown Road Reisterstown, MD 21136

Rite-Aid Discount Pharmacy #389 575 Baltimore Pike Belair, MD 21014

Sentry Drug Center "140 Village" Shopping Center Westminster, MD 21157 Philip Bogash PD (301-239-3326)

Contact either of the two individuals listed at the Thrift/Treasury Drug Stores for emergency services at the following locations:

Thrift Drug Store #7094 Searstown Shopping Center Winchester Rd. Cumberland, MD 21502 James Struntz PD (301-729-4941) Jody Thomas PD (301-729-8361)

Thrift Drug Store #7116 Campus Hills Shopping Center 2444 Churchville Rd. Bel Air, MD 21014 Cindy Boyle PD (301-734-6286) Ernest Testerman PD (301-734-4250)

Thrift Drug Store #7112 White Oak Shopping Center Old Town Rd. Cumberland, MD 21502 Tom Bolt PD (301-777-3610) Brad Thomas PD (301-729-8361)

Treasury Drug Store #7800 Millison Plaza 180 Shangrila Drive, North Lexington Park, MD 20653 Paul Feicht PD (301-862-1286) Charles Morris PD (301-862-2563)

Washington Village Pharmacy 711 Washington Blvd. Baltimore, MD 21230 Clifford A. Zarow PD (301-547-6666)



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# T's and Blues

by
Karen B. Disney, P.D.
Reprinted from the *Toxalert*, Summer, 1982

The abuse of pentazocine (Talwin<sup>®</sup>) in combination with tripilennamine (PBZ<sup>®</sup>) is widespread among street addicts. This combination is known on the street as T's (Talwin<sup>®</sup>) and Blues (PBZ<sup>®</sup>).

Pentazocine was marketed in 1967 as an analgesic having no addictive properties. However, addiction to this drug was soon reported following abuse by some members of the medical community. Pentazocine may produce hallucinations, dysphoria, and central nervous system and respiratory depression. Naloxone (in larger doses than required for other narcotics) will reverse these adverse effects. Chronic parenteral abuse of pentazocine frequently results in severe cutaneous ulceration and fibrous myopathy exceeding that, and distinguishable from, parenteral abuse of other drugs. It is postulated that abuse of pentazocine alone has not been popular with street addicts because of its mild antagonist activity.

Tripilennamine is an antihistamine and like other drugs of this class has no potential for addiction. Hallucinations, euphoria and a speeding effect produced by large doses of antihistamines account for their popularity among drug abusers. Other adverse effects include an elevation in heart rate and blood pressure, and in more severe cases, arrhythmias and/or seizures.

As the supply of heroin on the street decreases, drug abusers sometimes substitute T's and Blues. Some users report preferring T's and Blues to heroin<sup>1,2</sup>. The two drugs are used concurrently because tripilennamine is purported to slow the onset and potentiate the analgesic and euphoric effects of pentazocine. It is postulated that this combination eliminates the adverse effects of either drug alone.<sup>2</sup> Two 50 mg pentazocine tablets and one 50 mg tripilennamine tablet are crushed, dissolved in water, strained through cotton and the mixture injected intravenously. Oral use has also been reported.<sup>3</sup> The user experiences a rush much like that induced by heroin and lasts about 10 minutes. This is followed by dysphoria such that the dose is repeated several times while the supply lasts. After several injections the rush is followed by a feeling of well being much like that following heroin use. The feeling peaks at 1 to 2 hours, subsides over 2 to 4 hours and is often followed by restlessness, malaise and abdominal cramps.

Tonic clonic seizures are frequently reported following the use of T's and Blues. Seizures occur more frequently when the drugs are administered in a 1:1 ratio. The user is therefore careful to establish a 2:1 ratio (2 pentazocine to 1 tripilennamine) to achieve the high but avoid seizures. Granulomas and other pulmonary complications including pulmonary hypertension may occur from the injection of talc employed in the manufacture of pentazocine and tripilennamine tablets.

Treatment of complications of T's and Blues abuse includes monitoring and supporting cardiovascular and respiratory function. Naloxone may be used to reverse respiratory depression secondary to pentazocine. Seizures should be treated with diazepam. The patient should be observed for talc induced pulmonary problems. Cutaneous and muscle damage may be severe, requiring aggressive surgical and medical treatment. Complications of IV drug abuse including hepatitis and endocarditis may also be present and require treatment. If the chronic user is denied access to these drugs, mild, narcotic-like withdrawal symptoms may develop.

The cost of a "set" of T's and Blues (one tablet of each tripilennamine and pentazocine) is between \$7 and \$10.

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MARCH, 1983

# Soda Jerks: An Imprint in Americana

By Ink Mendelsohn Smithsonian News Service

"A crowd of white sticks on wheels off the reel!" Translation: Three vanilla ice cream cones to go—in a hurry.

It was a picturesque, humorous and functional language that apparently began in the late 19th century and by the late 1930s was already beginning to fall out of use. Fortunately, it has been preserved by linguists, folklorists and ice cream historians. It was the colorful jargon of the soda jerk.

The soda jerk, so called because he jerked the draft arm on the soda fountain, was a uniquely American figure—the cowboy of the ice cream parlor, small town drugstore or big city fountain.

Instead of a lasso, the soda jerk threw around words. He used his special lingo as verbal shorthand for calling out orders and instructions as theater to entertain the customers and to just plain show off.

Soda jerking was, in its golden age from 1900 to 1950, a highly desirable profession.

Apprenticeship as a "pearl diver" (dishwasher) was often necessary before the big break came

Soda jerks ranged in years from teen-agers to middle-aged men. In 1906, in Fred Sander's Detroit Ice cream parlor, they were "neat" young women.

Alva Elliott, head soda man at Ferger's Fountain on the busiest corner in Indianapolis, was a typical turn-of-the-century soda jerk. The 17-year-old was, according to The Soda Fountain magazine, ". . . a farmer boy who had never seen a soda water apparatus. He caught on and is up-to-date in everything concerning the trade."



The structure of a soda jerk's call consisted of the method of preparation, the number and size of the order, the basic soda fountain item and special instructions.

For example, "Shake a crowd of patch" was an order for three strawberry milkshakes.

An elaborate number system was used as quick communication between soda jerks. The number "13" meant the boss is coming and the number "87½" signaled the entrance of a good-looking woman.

Following is a small sampling of soda jerk jargon. The list has been selected from one compiled by Paul Dickson in his ice cream history, "The Great American Ice Cream Book," published by Atheneum in 1972.

Based on the work of several linguists and folklorists, the list is an abbreviated one, for each region of the country, city or town and individual soda fountain had special calls of its very own.

After you have read through it, go ahead and string a few calls together, and you'll be talking the language of the "licensed fizzicians."

ADAM'S ALE—water BELCH WATER glass of selter BLACK BOTTOM chocolate sundae and topping

BLACK STICK chocolate ice cream cone

BREAK IT AND SHAKE IT eggs in a drink

BRIDGE four of anything BUCKET OF HAIL small glass of ice

BURN a malted milk shake (chocolate)

BURN AND IT AND LET IT SWIM a float

CHASE pass (verb) CHICAGO pineapple soda or

sundae.

CHOC IN chocolate soda

CITY JUICE water

CROWD three of anything DOG SOUP water DROP a sundae ECHO repeat the order EIGHTY-ONE glass of water EIGHTY-SEVEN AND A HALF attractive female

EIGHTY-SIX out of the item ordered

EIGHTY-TWO two glasses of water

FIFTY-FIVE root beer FIZZ carbonated water FORTY-ONE lemonade FOURTEEN special order, lis-

FOURTEEN special order, listen carefully

GEORGE EDDY customer who leaves no tip

GLOB plain sundae

GO FOR A WALK to take out

GORP greedy eater

HANDFUL five (handful plus one, a pair, crowd, etc. used for six, seven, eight, etc.)

HOBOKEN SPECIAL pineapple soda, chocolate ice cream

HOLD THE HAIL no ice
HOUSE BOAT banana split
IN soda

IN THE AIR a large glass
IN THE HAY strawberry milkshake

INHALE to drink
JERK an ice cream soda
L.A. a la mode
M.D. Dr. Pepper

MODE MODE two scoops ice cream on pie, etc.

MUD chocolate ice cream

NATURAL 7-Up (5 and 2, natural in craps)

NINETY-FIVE customer leav-

ing, not paying

NINETY-NINE head soda man

OH GEE orangeade ON all sundaes

ON WHEELS to go

ONE ON THE CITY water

PAIR two

PATCH strawberry ice cream

PEST assistant manager

PINK STICK strawberry ice cream cone

POP BOY soda jerk who doesn't know his job

RIFFLE refill the order

SALT WATER MAN ice cream mixer

SHAKE ONE milk shake (chocolate)

SHOOT IT YELLOW lemon Coke

SHOOT ONE Coke

SHOOT IT FROM THE SOUTH strong Coke

SODA CLERK soda man in top-rated fountain

SPLA whipped cream
SPLIT ONE banana split
SQUIRT soda dispenser
STRETCH ONE large Coke
SUDS root beer

THIRTEEN one of the big

bosses is around

THIRTY-ONE lemonade THROUGH GEORGIA chocolate syrup added TO THE LEFT lemon flavor (traditionally to the left of the coke syrup pump)

TO THE RIGHT cherry flavor

(right of Coke)

TWENTY-ONE limeade VAN vanilla ice cream

VANILLA pretty girl out in front

WESTERN Coke with chocolate flavor



WHITE COW vanilla milk shake

WHITE STICK vanilla ice cream cone

Soda jerks had dozens of manuals and formularies containing many hundreds of recipes always called "formulas."

The "Spatula Soda Water Guide," first published in 1901, contained more than 1,000 formulas for syrups and ice cream dishes in its fifth edition in 1919. There were 25 banana split formulas alone.

E.F. White, its editor published formulas for the "Fluffy Ruffles," "Square Meal Sundae," "Brown Stone Front Sundae," "Football Sundae," "Base Ball Special," "Texas Girl Sundae," the "Quitea-thing" and the "Hug-Me-Tight Sundae," to name but a few.

"Let's Sell Ice Cream," published in 1947 by the Dairy Training and Merchandising Institute, was the last of the great soda fountain formularies. This manual contained classic ice cream concoctions and original creations from particular ice cream establishments.

One such super sundae, the "Washington Monument," came complete with an "architectural" plan, a detailed line drawing illustrating for the soda jerk how it should be "constructed." The following formula for the "Washington Monument Sundae" was a house speciality at Weile's of Washington, D.C.

6 different flavors of ice cream

chocolate syrup raspberry syrup

nuts in syrup bananas

whipped cream

candy decorettes (blue and red) whole cherries

Into a very tall glass put ½ ounce chocolate syrup and 1 No. 30 dipper (about 1-and-three-quarters inches in diameter, normally the scoop for parfaits and ice cream "sampler" bowls) vanilla ice cream.

Add raspberry syrup and 2 or 3 slices of banana. Then continue by alternating with syrups, nuts, and ice creams of different flavors, using a total of 6 dippers of ice cream. Place a half banana upright in center on top, forming the height, and cover with plenty of whipped cream.

Sprinkle with red and blue candy decorettes and 5 whole red cherries around the top edge of glass. Insert small American

flags. T



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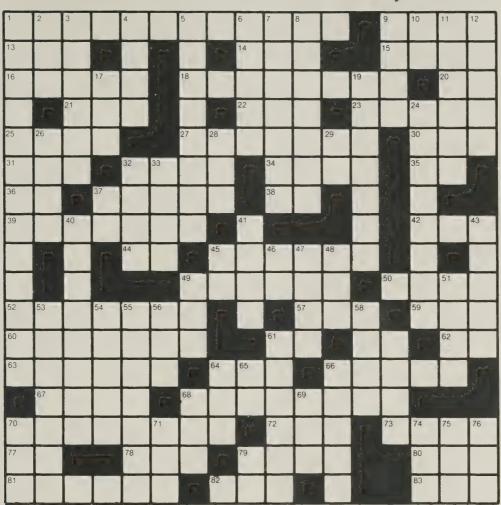


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# PHARMACISTS CROSSWORD PUZZLE — by Dr. Ski



## ACROSS

- 1. Rat lab department
- 9. Coed's home
- 13. Head topper
- 14. Hard water
- 15. Notion 16. Xylocaine maker

- 18. Roller coasting 20. S.C.'s neighbor 21. 007's creator
- 22. Santa's helper 23. Total
- 25. Death in Paris
- 27. Before Valium 30. Chemist's "same"

- 31. Exist
  32. Lymph lump
  34. Pre-College tests
  35. Opposite SW
  36. Element 20

- 37. Defeated by Salk 38. Meditation form (abbr.)
- 39. Periwinkle product
- 42.5% on the dollar
- 44. Dollar ending
- 45. At the dock

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- 49. Lederle multivitamin
- 50. Fiber food
- 52. For the gums
- Troublemaker
- 59. Schafly's cause
- 60. The "reds" 61. International peacekeeper
- 62. Former (prefix) 63. FDC #5 is out

- 64. NRA's thing 66. Took over Warren-Teed

- 67. Bumpkin
- 68. New Lederle product 70. "Rhapsody in Blue" composer 72. Down under bird
- 73. One out of 4 leaps 77. After meals
- 78. Millions of #73 across
- 79. Doctor's office activity 80. Special sense
- 82. Slimey fellow
- 83. Crossword Author

- "Weeds & seeds" 2. Owns
- 3. See 81 across
- 4. Sick sound
- 5. Thins the blood
- 6. Cootie Killer
- 7. Eye healer 8. Sterile sponge
- 9. Scarsdale activity
- Right eye
   Pfizer diuretic
- 12. Big in Biology 17. Test animal
- 19. C-III for coughs
- 24. Alcoholic solution
- 26. Algerian port
- 28. New 29. Big Orange 32. Insulin source
- 33. Hodgepodge 37. By mouth
- 40. Lilly cephalosporin
- 41. Valentine topic

- 46. Choice 47. Place for "singing"
- 48. Multinational tree 49. Semisolid
- 51. The territory
- 53. Give a 2d term 54. Horse pill
- 55. Choice 56. Wood cutter

- 61. Imaginary
- 64. Juniper berry extract
- 65. Ascend 66. Poignant
- 68. Fraternity symbol 69. Friend in Paris
- 70. Students' performance number
- 71. Trouble 74. An erythromycin
- 75. Question 76. N.Y. School
- 79. Lindy's book

Pictures courtesy Abe Bloom — District Photo

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# OBTAINING DRUG INFORMATION FROM PHARMACEUTICAL MANUFACTURERS

by Fred Schneiweiss

THERE ARE OCCASIONS when pharmaceutical and/or medical information is required, by telephone, from manufacturers of drug products. The usual reference source for telephone numbers of pharmaceutical manufacturers is the *Physicians' Desk Reference (PDR)*. However, the *PDR* does not indicate whether a company will accept a collect call, whether an 800 number is available, whether a special number or extension is available for reporting side effects, and what number should be used for after-hours emergency cases.

This survey of *PDR*-listed major manufacturers was undertaken to ascertain which numbers should be used in certain cases, whether collect calls are

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accepted, or whether 800 numbers are available. The results are presented in Table 1. Interestingly, the numbers provided by companies differed, in many cases, from the numbers listed in the *PDR* and, occasionally, from those listed by Zonenshine and Hunter in their directory of pharmaceutical manufacturers, <sup>1</sup>

In regard to emergency numbers, some manufacturers record messages and respond the following day; others have "guards" who take messages and then contact another employee who returns calls. Finally, some emergency numbers are for direct lines to on-call employees who may be able to offer immediate help. Not all of the responding manufacturers provided this type of information.

# Reference

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Table 1. Telephone Numbers for Pharmaceutical Manufacturers

COMPANY NAME AND ADDRESS	COLLECT CALLS ACCEPTED?	GENERAL PRODUCT INFORMATION	REPORTING SIDE EFFECTS	800 NUMBERS	AFTER-HOURS EMERGENCIES
Abbott Hospital Products (injectables) Abbott Laboratories Abbott Park North Chicago, IL 60064	yes	312-937-3806	312-937-3825		312-937-6100
Abbott Pharmaceutical Products (oral) Abbott Laboratories Abbott Park North Chicago, IL 60064	yes	Formulation Bioavailability Stability 312-937-7302 Medical use of products 312-937-7069	312-937-3400		312-937-6100
Adria Labs, Inc. PO Box 16529 Columbus, OH 43216	yes	614-764-8100	614-764-8100		614-764-8100
Alcon Labs, Inc. PO Box 1959 Fort Worth, TX 76101		817-293-0450			
Allergan Pharmaceuticals 2525 Dupont Dr. Irvine, CA 92713	yes	714-752-4500	714-752-4500		
Almay, Inc. 850 Third Ave. New York, NY 10022	no	919-362-7422			919-362-7422
Alto Pharmaceuticals 15509 Casey Road Ext. Tampa, FL 33624	yes	813-961-1010	813-961-1010		813-961-1010

Table 1. Telephone Numbers for Pharmaceutical Manufacturers (Continued)

COMPANY NAME AND ADDRESS	COLLECT CALLS ACCEPTED?	GENERAL PRODUCT INFORMATION	REPORTING SIDE EFFECTS	800 NUMBERS	AFTER-HOURS EMERGENCIES
American Critical Care 1600 Waukegan Rd. McGraw Park, IL 60085	yes 8 am-4:30 pm IL only	312-473-3000	312-473-3000	800-323-4980 (outside IL)	800-323-4980 312-473-3000
Ames Division Miles Laboratories, Inc. PO Box 70 Elkhart, IN 46515	no	219-264-8645			219-264-8400
Armour Pharmaceutical Co. 303 S. Broadway Tarrytown, NY 10591 Arnar-Stone	no	914-631-8888	914-631-8888 Ext. 5570	800-431-1328	800-435-1852
(see American Critical Care) Astra Pharmaceutical Products, Inc. 7 Neponset St. Worcester, MA 01606	yes	617-852-6351	617-852-6351	800-225-6333 800-922-8584 (MA only)	617-852-6351
Ayerst Laboratories 685 Third Ave. New York, NY 10017	yes	212-878-5996 212-878-5999	212-878-5996 212-878-5999		212-986-1000
B. F. Ascher and Co., Inc. 15501 W. 109 St. Lenexa, KS 66219	no	913-888-1880	913-888-1880		816-761-2502
(Balmex) Mascil, Inc. 1326-38 Frankford Ave. Philadelphia, PA 19125	no	215-423-5566	215-739-7300		215-ES9-0869
Barnes-Hind Pharmaceuticals 895 Kifer Rd. Sunnyvale, CA 94086	no	408-736-5462	408-736-5462	800-538-1562	
Barry Labs, Inc. 461 NE 27th St. Pompano Beach, FL 33064	no	305-943-7722	305-943-7722	800-327-1141 (outside FL)	
Beecham Laboratories 501 Fifth St. Bristol, TN 37620	yes	615-764-5141 Ext. 363	615-764-5141 Ext. 363	800-251-0271	615-764-5141 703-669-9199
Berlex Laboratories 110 E. Hanover Ave. Cedar Knolls, NJ 07927	yes	201-694-4100	201-540-8700		201-539-9273 (first) 201-382-7584 (second 201-658-3355 (third)
Breon Laboratories, Inc. 90 Park Ave. New York, NY 10016	yes	212-907-2749	212-907-2708		212-907-2000
Bristol Laboratories PO Box 657 Syracuse, NY 13201	yes	315-432-2668 (Nonmedical) 315-432-2838 (Medical)	315-432-2838 (Anticancer) 315-432-2713 (All others)		315-432-2121
Burroughs Wellcome Co. 3030 Cornwallis Rd. Research Triangle Park, NC 2770	yes 9	919-541-9090	919-541-9090		919-541-9090
Central Pharmacal Co., The 110-128 E. Third St. Seymour, IN 47274	yes	812-522-3915	812-522-3915 Ext. 37		812-522-7574
Ciba Pharmaceutical Co. 556 Morris Ave. Summit, NJ 07901	no	201-277-5049	201-277-5049	800-631-7994	201-277-5049
Connaught Laboratories, Inc. Swiftwater, PA 18370	yes	717-839-7187 Ext. 206	717-839-7187 Ext. 206		717-839-7187
Cutter Biological Div. Cutter Labs, Inc. 2200 Powell St. Emeryville, CA 94662	yes	415-420-4181	415-420-4181	800-227-1762 (outside CA)	415-420-5059
Dermik Laboratories, Inc. 1777 Waltun Rd. Dublin Hall Blue Bell, PA 19422	yes	215-641-1863	215-641-1962	800-523-6674	215-628-6000

Table 1. Telephone Numbers for Pharmaceutical Manufacturers (Continued)

COMPANY NAME AND ADDRESS	COLLECT CALLS ACCEPTED?	GENERAL PRODUCT INFORMATION	REPORTING SIDE EFFECTS	800 NUMBERS	AFTER-HOURS EMERGENCIES
Dista Products Co. (see Lilly)					
Dome Laboratories (see Miles Pharmaceuticals)					
Porsey Laboratories PO Box 83288 Lincoln, NE 68501	no	402-464-6311 Ext. 363	201-386-7764		402-464-6311
Orummer Labs Div. Lemmon Co. 111 Levning St. South Hackensack, NJ 07606	no	201-343-5000	201-343-5000	800-526-0225	201-343-5000
Elkins-Sinns, Inc. 2 Esterbrook Lane 20 Box 5483 Cherry Hill, NJ 08034	yes	609-424-3700 Ext. 188	609-424-3700 Ext. 188	800-257-8349	800-257-8349
Endo Labs, Inc. I Rodney Square Wilmington, DE 19898	yes	302-773-3652	302-773-3652	800-441-7516	302-774-1000
Flint Laboratories Fravenol Laboratories, Inc. 1425 Lake Cook Rd. Deerfield, IL 60015	yes	312-940-5972	312-940-5972	800-323-5810	
Geigy Pharmaceuticals 556 Morris Ave. Summit, NJ 07901	yes	201-277-5000	201-277-5049		201-277-5000
Glaxo, Inc. Div. New Product Development 3306 Highway 54 Research Triangle Park, NC 27709	yes	919-549-9507	919-549-9507		919-549-9507
Glenbrook Laboratories 90 Park Ave. New York, NY 10016	yes	212-907-2741	212-907-2740		212-972-2000
Hoechst-Roussel Pharmaceuticals, Inc. Route 202-206 N Somerville, NJ 08876	yes	201-231-2611	201-231-2611		201-231-2000
Hynson, Westcott & Dunning, Inc. Becton Dickinson Immunodiagnostics Charles & Chase Sts. Baltimore, MD 21201	no	800-638-1532	800-638-1532	800-638-1532	801-837-0890
Invenex Pharmaceuticals 5885 Lakehurst Dr. Orlando, FL 32809	yes	800-327-2117	800-327-2117	800-327-2117	
lves Laboratories, Inc. 685 Third Ave. New York, NY 10017	yes	212-878-5166 (Medical) 212-878-5118 (Pharmaceutical)	212-878-5166		914-769-9060
Key Pharmaceuticals, Inc. 18425 NW Second Ave. Miami, FL 33169	yes	305-652-2276	305-652-2276	800-327-9054	800-327-9054
Knoll Pharmaceuticals Co. 30 N. Jefferson Rd. Whippany, NJ 07981	yes	201-887-8300	201-887-8300	800-526-0221	800-526-0221
Lannett Co., Inc. 9000 State Rd. Philadelphia, PA 19136	no	215-333-9000	215-333-9000		215-745-1715
Lederle Laboratories Middletown Rd. Pearl River, NY 10965	yes	914-735-5000	914-735-5000		914-735-5000
Lemmon Co. PO Box 30 Sellersville, PA 18960	yes	800-523-6542 Ext. 271, 2, 3	800-523-6542 Ext. 271, 2, 3	800-523-6542	215-624-1103

Table 1. Telephone Numbers for Pharmaceutical Manufacturers (Continued)

COMPANY NAME AND ADDRESS	COLLECT CALLS ACCEPTED?	GENERAL PRODUCT INFORMATION	REPORTING SIDE EFFECTS	800 NUMBERS	AFTER-HOURS EMERGENCIES
Lilly, Eli & Co. 107 E. McCarty St. ndianapolis, IN 46285	yes	317-261-3714	317-261-3714		317-261-2000
Marion Laboratories, Inc. PO Box 9627 Kansas City, MO 64134	no	816-761-2500 Ext. 1362	816-761-2500 Ext. 1362	800-821-2130 Ext. 1362	800-821-2130
McNeil Pharmaceutical Spring House, PA 19477	yes	215-628-5000	215-628-5139		215-628-5000
Mead Johnson & Co. Pharmaceutical Division 2404 Pennsylvania St. Evansville, IN 47721	yes	812-428-5123 812-428-5125 812-428-5128	812-428-5123 812-428-5125 812-428-5128		812-426-6064
Merck Sharp & Dohme West Point, PA 19486	yes	215-661-7300	215-661-6150		215-661-5000
Merrell Dow Pharmaceuticals, Inc. Subsidiary Dow Chemical Co. Cincinnati, OH 45215	yes (emergencies only)	513-948-9111	513-948-9111		513-948-9111
Miles Laboratories, Inc. PO Box 40 Elkhart, IN 46515	no	219-264-8111	219-264-8111		
Miles Pharmaceuticals Miles Labs, Inc. 400 Morgan Lane West Haven, CT 06516	yes	203-934-9221	203-934-9221 Ext. 2373	800-243-4153	203-934-9221
Muro Pharmaceutical, Inc. 890 East St. Tewksbury, MA 01876	no	617-851-5981	617-851-5983	800-225-0974	617-851-5981
Neutrogena Dermatologics PO Box 45036 Los Angeles, CA 90045	no	213-776-5223	213-776-5223	800-421-6857	213-776-5223
Norcliff Thayer, Inc. 303 S. Broadway Tarrytown, NY 10591	no	914-631-0033	914-631-0033		303-592-1714
Norwich-Eaton Pharmaceuticals, Inc. 17 Eaton Ave. Norwich, NY 13815	yes	607-335-2565	607-335-2091		607-335-2565 607-335-2111
O'Neal, Jones & Feldman 2510 Metro Blvd. Maryland Heights, MO 63043	yes	314-569-3610	314-569-3610		314-878-6149
Organon Pharmaceuticals 375 Mount Pleasant Ave. West Orange, NJ 07052	no	201-325-4500	201-325-4500		
Ortho Pharmaceutical Corp. Raritan, NJ 08869	yes	201-524-9650 201-524-9651 201-524-9652	201-524-9650 201-524-9651 201-524-9652		201-524-1566
Parke-Davis Div. Warner Lambert 201 Tabor Rd. Morris Plains, NJ 07950	yes	201-540-4243 201-540-4241 201-540-2117	201-540-2301		201-540-2000
Pfipharmecs Division Pfizer, Inc. 235 E. 42nd St. New York, NY 10017	yes	212-573-2323	212-573-2323		212-573-2323
Pfizer Labs Pfizer, Inc. 235 E. 42nd St. New York, NY 10017	yes	212-573-2422	212-573-2422		212-573-2422
Pfizer, Inc. Consumer Products 100 Jefferson Rd. Parsippany, NJ 07054	no	201-887-2100	201-887-2100		201-887-2100 212-573-1456
Premo Pharmaceutical (see Drummer)					

Table 1. Telephone Numbers for Pharmaceutical Manufacturers (Continued)

COMPANY NAME AND ADDRESS	COLLECT CALLS ACCEPTED?	GENERAL PRODUCT INFORMATION	REPORTING SIDE EFFECTS	800 NUMBERS	AFTER-HOURS EMERGENCIES
Procter and Gamble Co. 11520 Reed Hartman Hwy. Cincinnati, OH 45241	no	800-543-1745 800-582-0345	800-543-1745 800-582-0345	800-543-1745 800-582-0345	800-543-1745 800-582-0345
Purdue Frederick Co. 0 Washington St. Jorwalk, CT 06856	yes	203-853-0123	203-853-0123	800-243-5666	203-853-0123
urepac Pharmaceutical Co. 00 Elmora Ave. dizabeth, NJ 07207	no	201-527-9100	201-527-9100	800-526-6978	
eed & Carnrick New England Ave. iscataway, NJ 08854	yes	201-981-0070 Ext. 521	201-981-0070 Ext. 521		201-272-6600 Ext. 524
eid-Provident Laboratories, Inc. 5 Fifth St. NW tlanta, GA 30308	yes	404-898-1066 404-898-1043	404-898-1066 404-898-1043	800-241-9937	404-241-9937
iker Labs, Inc. absidiary 3M Co. 9901 Nordoff St. orthridge, CA 91324	yes	213-709-3159	213-709-3137		213-341-1300
obins, A.H. Co., Inc. 211 Sherwood Ave. ichmond, VA 23220	yes	804-257-2514	804-257-2514		804-257-2000 804-257-7788
oche Laboratories iv. Hoffmann-LaRoche 40 Kingsland St. utley, NJ 07110	yes	201-235-2355	201-235-2355		201-235-2355
oerig iv. Pfizer, Inc. 35 E. 42nd St. ew York, NY 10017	yes	212-573-3288	212-573-3288		212-573-2187
orer, William H., Inc. 00 Virginia Dr. t. Washington, PA 19038	yes	215-628-6492 215-628-6000	215-628-6321 215-628-6000		215-628-6200 215-628-6000
oss Laboratories 25 Cleveland Ave. olumbus, OH 43216	no	614-227-3703 614-227-3333	614-227-3703		614-227-3333
oxane Laboratories, Inc. O Box 16532 olumbus, OH 43216	yes	614-228-5403	614-228-5403	800-848-0120	614-228-5403
andoz Pharmaceuticals O Box 11, Route 10 ast Hanover, NJ 07936	yes	201-386-7764	201-386-7764		201-386-7500
chering Corp. alloping Hill Rd. enilworth, NJ 07033	yes	201-558-4908	201-558-4118		201-558-5301
earle Laboratories O Box 5110 hicago, IL 60680	no	800-323-4204 (Medical hot line) 312-470-6750 (Product manager	800-323-4204 (Medical hot line) 312-470-6513	800-323-4204 (Medical hot line) 800-323-4397 (Marketing services)	312-982-7000
erono Laboratories, Inc. 1 Brooks Dr. raintree, MA 02184	yes	617-848-8404	617-848-8404	800-225-5185	800-225-5185 617-848-8404
mith, Kline, Beckman Corp. O Box 7929 hiladelphia, PA 19101	no	215-751-4000	215-751-4000	800-523-4835	215-751-4000
quibb, E.R. O Box 4000 rinceton, NJ 08540	yes	609-921-4006	609-921-4006		609-921-4000
iefel Laboratories, Inc. 801 Ponce de Leon Blvd. oral Gables, FL 33134	yes	800-327-3858	518-239-6901	800-327-3858	800-327-3858
tuart Pharmaceuticals oncord Pike Vilmington, DE 19897	yes	800-441-7758	800-441-7758	800-441-7758	302-575-3000

Table 1. Telephone Numbers for Pharmaceutical Manufacturers (Continued)

COMPANY NAME AND ADDRESS	COLLECT CALLS ACCEPTED?	GENERAL PRODUCT INFORMATION	REPORTING SIDE EFFECTS	800 NUMBERS	AFTER-HOURS EMERGENCIES
Syntex Laboratories, Inc. 3401 Hillview Ave. Palo Alto, CA 94304	yes	415-855-5050	415-855-5545		415-855-5050
Upjohn Co., The 7171 Portage Rd. Kalamazoo, MI 49001	yes	616-323-6615	616-323-6244	800-253-8600	616-323-6615
U.S. Ethicals, Inc. 37-02 48th Ave. Long Island City, NY 11101	no	212-786-8606	212-786-8606		
USV Laboratories, Inc. 303 S. Broadway Tarrytown, NY 10591	yes	914-631-8500	914-631-8500		914-779-6300
Viobin Corp. 226 W. Livingston Monticello, IL 61856	no	217-762-2561	217-762-2561		217-352-0799
Warren-Teed Labs (see Adria)					
Westwood Pharmaceuticals 468 Dewitt St. Buffalo, NY 14213	yes	716-887-3400	716-887-3400		
Winthrop Laboratories 90 Park Ave. New York, NY 10016	yes	212-907-2579	212-907-2579		212-907-2000
Wyeth Laboratories PO Box 8299 Philadelphia, PA 19101	yes	215-MU8-4400	215-MU8-4400		215-MU8-4400

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MARCH, 1983 27

# **ABSTRACTS**

Excerpted from PHARMACEUTICAL TRENDS, published by the St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor and Leonard L. Naeger, Ph.D., Associate Editor

## **BIOTIN DEFICIENCIES:**

Biotin deficiencies are relatively rare in the general population in this country because the vitamin is found in many types of foods. Deficiencies can be induced experimentally by feeding raw egg whites along with the meals. The egg white contains avidin, a protein which tightly binds biotin and renders it non-absorbable. Patients utilizing home parenteral nutrition may also develop this deficiency syndrome if their supplements do not contain sufficient biotin. Biotin injections will reverse the symptoms of a deficiency within a short time. *J Am Med Assoc*, Vol. 247, #22, p. 3116, 1982.

# SUDDEN INFANT DEATH SYNDROME:

Many studies have attempted to find a common denominator associated with the occurrences of sudden infant death syndrome (SIDS). Ionic and hormonal imbalances have been included in the investigations, but scientists in Washington suggest the age of the mother may have some significance. The syndrome is seen most frequently in babies whose mothers have delivered at an early age. *J Am Med Assoc*, Vol. 247, #16, p. 2250, 1982.

#### CAROTID BLOOD FLOW:

Just beyond the point where the carotid artery divides seems to be the area which first develops signs of atherosclerosis. Although predicted to occur by theoreticians some years ago, only recently have experiments shown an unusual blood flow pattern to occur in this area. Most blood apparently continues through the vessel as expected, but some tends to flow backward much the same as would an eddy current in a river. This occurs at the exact spot where the atherosclerotic lesions start to develop so investigators are studying this phenomenon in greater depth to see if there is some relationship between this phenomenon and vascular disease in other parts of the body. J Am Med Assoc, Vol. 247, #20, p. 2761, 1982.

## HYOSCINE:

Hyoscine (Scopolamine) is available for use via trans-dermal administration. The discs were used in ulcer patients to see if they might be useful in reducing acid secretion during the night. Results indicate significant reduction is realized without the development of serious side effects. Dry mouth was reported by most patients participating in the study. *Br Med J*, Vol. 284, #6331, p. 1736, 1982.

# CIRAZOLINE:

A new agent has been found to be an excellent vaso-constrictor. In addition to its ability to stimulate the alpha-one receptor site on vascular smooth muscle, it also blocks the presynaptic alpha-2 receptor. This enhances the release of endogenous transmitter and increases activity at the arteriolar muscle site. Cirazoline may have value in treating shock. *J Pharmacol Exp Ther*, Vol. 222, #1, p. 20, 1982.

#### **ETRETINATE:**

An analog of vitamin A, etretinate, has been used orally along with methotrexate to treat patients with serious psoriasis. The combination has proved very useful, but patients so treated have been found to develop increased levels of both triglycerides and cholesterol. *J Am Med Assoc*, Vol. 247, #19, p. 2647, 1982.

# FOOD POISONING AND THE SALEM WITCHCRAFT AFFAIR:

Circumstantial evidence has been developed which makes it appear likely that the cases of bewitchment leading to the Salem witchcraft trials in 1692 may have been the results of ergotism. Ergot poisoning produces a variety of symptoms including giddiness, a feeling of pressure in the head, fatigue, depression, nausea, pair in the limbs, crawling sensations under the skin twitching, tonic spasms of the limbs, tongue and facia muscles and epileptiform convulsions. Ergot poisoning is more common in children and the temperature and growing conditions for the 1691 rye crop were all favor able for the growth of the Claviceps fungus. Ergot con tains four groups of alkaloids which could account fo the symptoms in the humans and animals as described in the Salem trials. Am Sci, Vol. 70, #4, p. 355, 1982.

## **CEFOPERAZONE:**

Cefoperazone is a third-generation cephalosporii with a wide spectrum of activity. It is resistant to bet lactamase, especially that produced by Gram negativ bacteria. When administered by injection, most of th antibiotic is excreted in the bile and thus it should no accumulate to a great extent in patients with impaire renal function. *Clin Ther*, Vol. 4, #6, p. 450, 1982.

#### HYDRALAZINE:

Patients often experience benefit when hydralazin (Apresoline) is administered to treat systemic hypertersion. Studies conducted in patients with pulmonar

hypertension suggest that the drug may actually do more harm than good in these situations. The authors of this article suggest that hydralazine be avoided in patients with pulmonary hypertension. *N Engl J Med*, Vol. 306, #22, p. 1326, 1982.

# ANTIARRHYTHMIC AGENTS:

Procainamide and quinidine are both converted to metabolites which have antiarrhythmic activity. Encainide, an orally effective drug similar to xylocaine in structure and action, has also been found to be converted into an active metabolite. The metabolite, Odemethyl encainide, is more highly active than the parent drug and thus may contribute to its overall effectiveness. *J Pharmacol Exp Ther*, Vol. 221, #3, p. 552, 1982.

## PRANOLIUM:

Pranolium is a compound with structural similarities to propranolol (Inderal), but it lacks beta-adrenergic clocking activity. It has been known that propranolol has antiarrhythmic activity independent of its beta-blocking action and that activity resides in the branolium molecule. The drug seems to have a narrow safety margin and thus does not seem to be useful by tself in treating arrhythmias, but it will serve as a starting point for further chemical synthesis. It may be developed into an antiarrhythmic agent with no effect on the beta receptor. Clin Pharmacol Ther, Vol. 32, #1, p. 33, 1982.

# **NOCTURINAL ANGINA:**

It is thought that excessive return of venous blood to he heart while lying down is responsible for nocturnal angina. Patients with this condition experienced relief by lying in a 10 degrees reverse Trendelenburg position. The patient lies relatively flat but the bed is tilted at a 10 legree angle with the feet down. *Lancet*, Vol. I, #8285, p. 1325, 1982.

# **QUINIDINE AND AMIODARONE:**

Amiodarone is an investigational antiarrhythmic gent which usually produces few side-effects. Howver, it apparently has the ability to potentiate the efectiveness of warfarin (Coumadin), digoxin (Lanoxin) nd quinidine. Plasma concentrations of quinidine as vell as the QT interval need to be watched closely when miodarone is added to a regimen utilizing quinidine. *ancet*, Vol. I, #8285, p. 1327, 1982.

## **VIRALLY-INDUCED OBESITY:**

Many causes of obesity have been found but invesigators now feel that some obesity may be a complication of a viral infection. The hypothalamus partially egulates food intake and thus surgical damage to this rea can alter thermogenesis and food intake. Thus ody weight can be changed. Viral infections in the ypothalamus of animals can be followed by gross obe-

sity within 4 to 5 months. The possibility exists that some obesity may be virally induced. *Lancet*, Vol. II, #8289, p. 79, 1982.

# **ENALAPRIL:**

Captopril (Capoten) has been found to inhibit converting enzyme and thus reduce the likelihood of hypertension in patients with elevated plasma renin levels. It does cause skin rash, loss of taste sensations, leukopenia and some proteinuria. The sulfhydryl group on the molecule is thought to be the offending portion and thus a new molecule has been synthesized without this moiety. Enalapril has also been found to reduce blood pressure without producing the side-effects associated with captopril. Longer studies are required to confirm these preliminary findings. *Clin Pharmacol Ther*, Vol. 32, #1, p. 48, 1982.

# **CIMETIDINE-ETHANOL INTERACTION:**

Ethanol was ingested in the presence and absence of cimetidine (Tagamet) by volunteers in a double-blind study. Both objective and subjective measurements indicated that ethanol produced more effects and was present in higher concentrations in the plasma when it was ingested along with the histamine-2 antagonist. *J Am Med Assoc*, Vol. 247, #20, p. 2819, 1982.

# **NIFEDIPINE:**

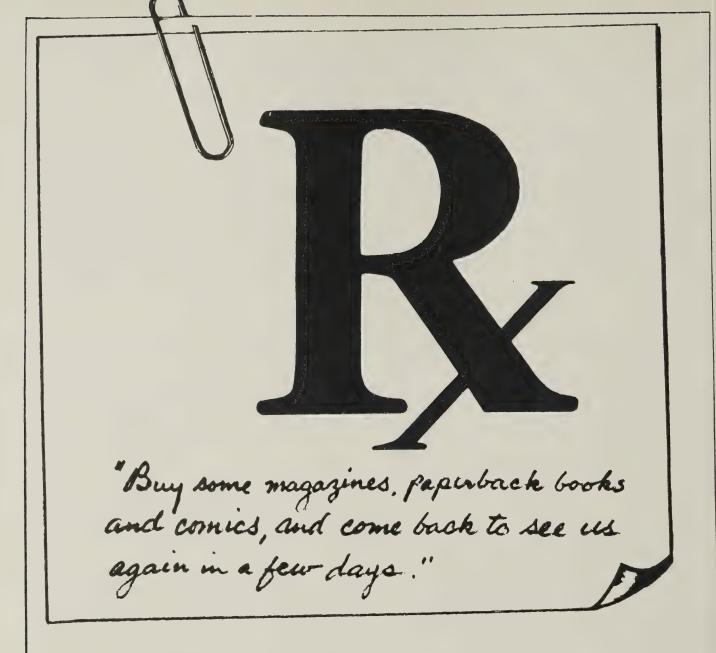
Histamine and prostaglandin F-2 alpha can be administered to experimental animals in order to produce symptoms which mimic asthma. Prior to the use of these stimulants, nifedipine (Procardia) was administered by either injection or inhalation. The calcium channel blocker was found to protect the animal against this pharmacologically-induced bronchoconstriction and thus may be of value in treating patients with asthmatic conditions. *J Pharmacol Exp Ther*, Vol. 221, #2, p. 410, 1982.

# **HIGH-DENSITY LIPOPROTEINS:**

High-density lipoproteins are found to be inversely related to cardiovascular disease so various methods of increasing their concentrations in the plasma have been studied. Levels of high-density lipoproteins are normally low in smokers, a group which has a high incidence of coronary heart disease. Studies conducted in Sweden indicate that high density lipoprotein concentrations will increase in patients who stop smoking. *Br Med J*, Vol. 284, #6328, p. 1511, 1982.

## **ERYTHROCYTE-DIGOXIN CONCENTRATIONS:**

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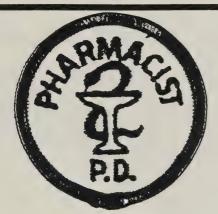
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**APRIL**, 1983

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# YZIT

- YZIT always seem I barely make the deadline for these articles
- YZIT all my customers own more of my store than I
- YZIT I have trouble telling my customers that the price of their prescription really isn't as high as it seems
- YZIT manufacturers keep telling me that the price my customers pay for their prescription is lower when considered as a percentage of their total income
- YZIT most of our customers think of us as kindly and with trust, yet beaurocrats and third party administrators see us as scoundrels and freebooters, yet
- YZIT third party administrators both private and governmental won't sit down with us to talk out our mutual problems, vet
- YZIT some complain when we lobby against them
- YZIT when I leave a BMPA meeting I feel depressed and wonder where my profession is going, yet
- YZIT when I hear the Dean speak, there is a new dawn arising and all is going well with the world
- YZIT pharmacy students know about the pharmacokinetics and drug interactions of the diazepines, yet don't know how to run a lottery machine or promote mustard or catsup
- YZIT so many complain vet so few attend their local association meetings
- YZIT that those peers I see driving those Cadillacs and Continentals and going on those Caribbean jaunts, say business is so bad
- Yes, YZIT. It truly is a puzzlement. etc., etc., etc...

PRESIDENT

# Managerial Uses of the Maryland Fee Survey

by

L. Darrell Stauffer, Marilyn Cozad and Marily Rhudy

On May 3, 1982, the State of Maryland awarded the firm of Myers and Stauffer, CPA's, Topeka, Kansas, a contract to conduct a survey of the cost of dispensing pharmaceutical prescriptions in the state of Maryland. This article is based upon the results of that survey.

On May 17, 1982, survey forms and instructions were sent to the survey population. A telephone number was provided, encouraging the pharmacist or his accountant to call toll free with questions concerning completion of the cost reports. On June 10, a follow-up letter was sent to all pharmacies not responding by June 7, extending the original deadline to July 2, 1982 and encouraging each pharmacy that had not yet filed to complete the survey. With additional extensions to September 20, 1982, a total of 175 individual reports and two combined reports from two large chain organizations (representing 96 chain pharmacy units) were filed. The final printouts contain reports representing 271 pharmacies from a sample population of 616. Therefore the overall response rate was 44 percent.

The cooperation extended by the participating pharmacies, the Maryland Pharmaceutical Association, and the Maryland Association of Chain Drug Stores is appreciated. Dave Banta and members of the Maryland Pharmaceutical Association devoted considerable time in contacting individual pharmacies to elicit their cooperation. Ron Sanford of Dart Drug and a member of the Third Party Advisory Committee was also helpful in communicating the need to file to chain pharmacy organizations. Without this cooperation, the survey certainly would not have been successful.

The State of Maryland apparently intends to continue its present policy of utilizing a statewide fee in reimbursing provid-

ers of pharmaceutical services. However, the survey results allow the consideration of various options other than the selection of a uniform statewide fee. For example, various fees could be assigned based upon annual prescription volume. The total cost column shows that costs vary according to these categories. In the ownership category, this variation is assumed to be random. The category of prescription volume shows cost variation that is statistically significant. There appears to be a definite relationship between prescription volume and cost per prescription.

As shown in Table 2, three types of means were calculated. First, the mean weighed by Medicaid volume is the average cost of dispensing a prescription using Medicaid prescription volume as weights. (The weighted mean calculation implies that low Medicaid volume pharmacies have a smaller impact than high volume pharmacies). The mean weighted by total prescription volume is the average cost of all prescriptions dispensed by pharmacies included in the sample. Finally, the unweighted mean is the average cost using equal weights for each pharmacy. Of these three, the best estimate for the average cost of dispensing a prescription in the state of Maryland is the mean weighted by total prescriptions.

Some reports were excluded from Table 1 since they were not reported on an individual store basis. The data provided by two of the large chain organizations was essential to determining overall average cost. However, this data was not applicable to statistical tests or percentile arrays since the data for all pharmacy units within each chain was included on one cost report.

It should be pointed out that the cost data submitted was based on historica costs incurred during reporting periods end.

ing on or before June 30, 1982. Reported costs are not the same as those that will probably be incurred during the fee payment period. The reported costs were adjusted for estimated inflation to December 31, 1983, the assumed midpoint of the fee reimbursement period.

Table 3 illustrates percentile arrays of total cost per prescription by the various volume classifications. Pharmacies participating in the survey were provided a computerized report based upon their submitted survey. It may be useful for owners to compare their particular pharmacy's cost per prescription data to the appropriate volume classification contained in Table 3. It should be pointed out that averages can be misleading when compared individual items contained in that data, particularly if the deviations are as wide as those indicated in Table 3. Similar comparisons can be made to the data contained in Table 2. This may give some indication of problem areas in which it may be profitable to concentrate some additional managerial and professional effort. For example, if total cost per prescription is about average but labor cost is high, the pharmacist may do well to consider ways of reducing labor cost per prescription.

A more sophisticated approach to comparative analysis is available to the individual pharmacy. It is based upon regression analysis. Simple regression analysis identifies a relationship between two variables wherein one variable is treated as the dependent variable (variable to be predicted)

TABLE 2

Maryland Pharmacies

Costs Adjusted to December 1983

Total Operating Cost Per Prescription by Affiliation

	· · · · · · · · · · · · · · · · · · ·		
	Labor	Overhead	Total
Chain Pharmacies Including Combined Reports Mean Weighted by Medicaid Rx's Mean Weighted by Total Rx's Unweighted Mean Number of Pharmacies	\$ 2.81 2.97 3.01	\$ 1.20 1.18 1.18	\$ 4.01 4.15 4.19 111
Independent Pharmacies Mean Weighted by Medicaid Rx's Mean Weighted by Total Rx's Unweighted Mean Number of Pharmacies	2.60 2.66 2.74	1.27 1.26 1.28	3.87 3.92 4.02 160
Total Reporting Pharmacies Mean Weighted by Medicaid Rx's Mean Weighted by Total Rx's Unweighted Mean Number of Pharmacies	2.64 2.80 2.85	1.26 1.23 1.24	3.90 4.03 4.09 271

Source: Schedule D, October 8, 1982, for the 175 individually responding pharmacies and combined reports of chain pharmacies with fiscal years ending on or before June 30, 1982.

and the other variable is treated as the independent variable (predictor variable). A full discussion of regression techniques is beyond the scope of this article. However, a discussion of Exhibit 1 will give an indication of the type of information that is available to interested pharmacists. This Exhibit illustrates the individual prescription volume and total prescription department costs for each individual report in the sample. For example, the interrupted lines on the exhibit designate a pharmacy with prescription volume of approximately 60,000

TABLE 1

Maryland Pharmacies

Costs Adjusted to December 1983

Summary of Means Weighted by Total Prescriptions Excluding Combined Reports

	No of Pharmacies				F	Test of Total Cost	/Rx*
		Labor	Overhead	Total Cost	F Value	Probability Less Than	Reliable Predictor
All Pharmacies	175	\$2.65	\$1.25	\$3.90			
Ownership Individual	35	2.56	1.21	3.77			No
Partnership	6	2.49	1.04	3.53			No
Corporation	134	1.26	2.67	3.93			No
Prescription Volume					9.93	.005	Yes**
10,000 and under	8	3.34	1.87	5.21			
10,001 - 20,000	51	2.93	1.32	4.25			
20,001 - 30,000	48	2.83	1.23	4.06			
30,001 40,000	45	2.59	1.12	3.71			
40,001 and above	23	2.38	1.34	3.72			

<sup>\*</sup> Items designated as reliable predictors accounted for a significant portion of the variability of the total cost per prescription in a stepwise multiple regression. Conclusions based on an F test with degrees of freedom of 1 and 158.

<sup>\*\*</sup> Rx volume was treated as a continuous variable in the regression analysis.

Source: Various sorts and sequences of Schedule D, October 8, 1982.

and total prescription costs of approximately \$152,000. Where more than one pharmacy is at or near the same location, numbers greater than 1 are used.

Exhibit 1 indicates that a very high correlation exists between prescription volume and total pharmacy department costs. The formula illustrated at the bottom of this exhibit is the formula for the line plotted on the exhibit. This line satisfies a criteria that it minimizes the total distances between all points on this exhibit and the line. In effect, the line becomes a predictor of cost based upon individual prescription volume, not for ranges of prescription volume as in Table 3, but rather for the specific prescription volume of each individual pharmacy.

Multiple regression analyses are also available that take into account various predictor factors at the same time, thus improving the prediction of each individual pharmacy's cost. There are also several separate regressions for other predicted factors, such as selling price, labor cost, and overhead cost.

The regressions were developed during the survey as an aid in identifying possible erroneous data. They can also be used by individual pharmacies to ascertain whether or how much they deviate from expected costs. The basic software programs utilized in performing the regression analysis were developed for medical research but the same concepts are applicable to cost research.

The Maryland Pharmaceutical Association has available for any interested parties a complete explanation of how this information may be utilized. We strongly recommend that pharmacy owners contact the Association for information about the results of the regression analysis. The Association will be able to explain how pharmacy owners may compare individual pharmacy costs to the regression results without disclosing any confidential information. We hope that the results of this survey will be of benefit to Maryland Pharmacists as an aid in managerial decision making as well as the basis for determining a professional dispensing fee.

TABLE 3

Maryland Pharmacies

Costs Adjusted to December 1983

Total Operating Cost Per Prescription by Prescription Volume Excluding Combined Reports

			•			
Percentile	10,000 and Under	10,001 to 20,000	20,001 to 30,000	30,001 to 40,000	40,001 and Above	All Pharmacies
90	\$ 6.88	\$ 5.34	\$ 5.01	\$ 4.52	\$ 4.79	\$ 5.13
80	6.58	4.75	4.81	4.32	4.23	4.73
70	6.58	4.65	4.49	4.21	4.05	4.39
60	6.13	4.39	4.28	3.87	3.89	4.21
50	4.32	4.11	4.02	3.74	3.56	3.93
40	4.11	3.88	3.79	3.45	3.44	3.74
30	2.72	3.72	3.49	3.27	3.06	3.49
20	2.72	3.37	3.29	3.07	2.94	3.22
10	2.68	2.92	3.07	2.86	2.89	2.94
Mean Weighted by Medicaid Rx's	4.94	4.21	3.97	3.62	3.68	3.84
Mean Weighted by Total Rx's	5.21	4.25	4.06	3.71	3.72	3.90
Unweighted Mean	5.11	4.23	4.06	3.73	3.72	4.03
Number of Pharmacies	8	51	48	45	23	175

Source: Schedule D, October 11, 1982 for the 175 responding pharmacies with fiscal years ending on or before June 30, 1982.

#### Editor's Note

The firm of Myers and Stauffer,. Certified Public Accountants, has recently completed a pharmacy cost survey for the State of Maryland. This is the sixteenth such survey conducted by that firm. The authors have based their article upon the results of that survey. Mr. Stauffer is a founding partner of Myers and Stauffer and has six years of experience with the firm. Formerly, he taught accounting at the university level for a number of years before going into public practice. Mrs. Cozad, a senior accountant with the firm, served as project manager in charge of the Maryland survey. She has several years of public accounting experience. Mrs. Rhudy is a consultant to the firm as well as a community pharmacist and President of Continental Pharmacy. She has been active in the Kansas Pharmacists Association and served as President in 1978-79. She was recently elected to the American Pharmaceutical Association Board of Trustees.

#### **MSHP SEMINAR**

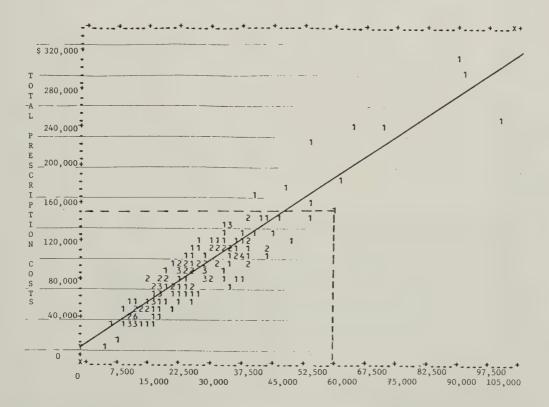
The Maryland Society of Hospital Pharmacists will hold their eighteenth annual seminar at Harrah's, Atlantic City, New Jersey on June 17, 18 and 19th. The theme for this year's seminar is "Innovations in Hospital Pharmacy in the 80's". Topics to be covered will include Home Hyperalimentation, Continuous Home Chemotherapy Programs, plus several other interesting subjects. The schedule will also include the Society's Inauguration and Awards Banquet on June 19th which will include the awarding of the following prestigious awards: The Geigy Achievement Award, The Pfizer Hospital Pharmacist of the Year, and The W. Arthur Purdum Award.

For more information, contact David Perrott, C/O Franklin Square Hospital Pharmacy, or Carla Perrott, C/O Union Memorial Hospital Pharmacy, Seminar Co-Chairman.

EXHIBIT 1

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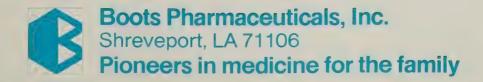
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Librium 5 & 10 mg.	Roche	W-500
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Norlestrin	Parke-Davis	D
Omnipen 250 & 500 mg.		D-100
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Orinase	Wyeth Upjohn	D-50
Ovral	13	D-50 D
	Wyeth	D-100
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Pan Vee K 250 & 500 mg.	Wyeth	D-100
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Phenergan VC Expect.	Wyeth	D-pint
Phenergan VC w/Codeine	Wyeth	D-pint
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Phenobarbital 15 & 30 mg.	All other manufacturers	W-1000
Provera 10 mg.	Upjohn	D-25
Serax 15 & 30 mg.	Wyeth	D-100
Sumycin 250 mg.	Squibb	D-100
Theragran Hematinic	Squibb	D-100
Tolinase	Upjohn	D-200
Triavil 2-10, 4-10, 2-25, 4-25	Merck, Sharp & Dohme	D-100
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D—denotes Manufacturer's Direct Price W—denotes Wholesaler's Price

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w/Atropine Sulfate 0.025 mg	00501
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Doxepin HCl 25 mg Doxepin HCl 50 mg	.1161 per capsule
· · ·	.1765 per capsule
Doxepin HCl 100 mg	.2900 per capsule
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Glutethimide 500 mg oral tablet	.0432 per tablet
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Hydrochlorthiazide 25 mg.	.0152 per tablet
Hydrochlorthiazide 50 mg	.0194 per tablet
Meprobamate 200 mg	.0108 per tablet
Meprobamate 400 mg	.0117 per tablet
Methocarbamol 500 mg	.0496 per tablet
Methocarbamol 750 mg	.0640 per tablet
Penicillin G 400 mu	.0237 per tablet
Penicillin G 800 mu	.0640 per tablet
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Penicillin VK 500 mg	.1025 per tablet
Penicillin VK Oral Susp. 125 mg/5 ml	.0120 per ml
Penicillin VK Oral Susp. 250 mg/5 ml	.0160 per ml
Potassium Chloride, oral liquid, 10%	.0030 per ml
Probenemid 0.5 g	.0644 per tablet
Procainamide HCl 250 mg	.0383 per capsule
Procainamide HCl 375 mg	.0505 per capsule
Procainamide HCl 500 mg	.0585 per capsule
Propantheline Bromide 15 mg	.0235 per tablet
Propoxyphene HCl 65 mg	.0317 per capsule
Propoxyphene HCl w/APC 65 mg	.0330 per capsule
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Based on the same information that USP has provided for health professionals in *USP DI*, *About Your Medicines* answers in lay-language many common consumer questions: what to do if a dose is missed; whether foods, alcohol or other drugs can be used with the medicine; and how the medicine will affect the patient. *About Your Medicines* covers over 400 of the most frequently used medicines, both OTC and prescription. It is packaged in an attractive display case of 12 copies for resale to your patients.

It's about time for About Your Medicines! Order your copies today.

	-
	olio alla
Mail to	o: Maryland Pharmaceutical Association 650 W. Lombard Street
Quantity	Baltimore, Maryland 21201
	About Your Medicines, display case of 12 copies, \$36.
	About Your Medicines, single copy, \$5.95*.
1	983 USP DI, 2-volume set, \$37.95*.
Payment required counts.	in advance. Inquire for quantity dis-
I have enclosed my payable to USPC.	check or money order for \$
Ship to: Name	

Zip\_

Address \_

\*MD residents only: add 5% sales tax.

Tetracycline HCl 500 mg

# If our new Order Entry System doesn't save you time and money within 60 days, you don't owe us a dime for the system.

- Order 50% Faster
- Better Stock Condition
- Better
   Pricing
   Information



- Place Orders In 60-Seconds
  - Item and Shelf Labels
    - Complete
       Pricing and
       Product
       Information

District Wholesale Drug Corp.

7721 Polk Street Landover, MD 20785 (301) 322-1100

Loewy Drug Co. 6801 Quad Avenue Baltimore, MD 21237 **Divisions of** 



Spectro Industries, Inc.

Jenkintown Plaza Jenkintown, PA. 19046 (215) 885-3676

#### **Medical Assistance Patients**

(Medicaid, Pharmacy Assistance Programs)

There are some restrictions in the State Program which the Pharmacist will be glad to explain to you. Some of the rules which the State has made are: ☐ YOU MUST HAVE A NEW, SIGNED PRESCRIPTION FROM THE DOCTOR FOR EACH NEW PRESCRIPTION. ☐ YOU MUST PRESENT YOUR PLASTIC CARD EACH TIME. THE PRESCRIPTION SHOULD BE ON A SPECIAL STATE FORM. ☐ WITH ONLY A FEW EXCEPTIONS, SUCH AS INSULIN, YOU WILL HAVE TO PAY FOR ANYTHING THAT CAN BE BOUGHT WITHOUT A PRESCRIPTION. EVEN IF THE DOC-TOR WROTE A PRESCRIPTION. ☐ YOU WILL HAVE TO PAY FOR DIET PILLS. THE PRESCRIPTION MUST BE FILLED WITHIN 10 DAYS OF THE DATE THE DOC-TOR WROTE IT. YOU ARE ALLOWED UP TO TWO REFILLS IF: 1. The Doctor wrote it on the original prescription. 2. The prescription plus refills are not more than 100 day supply. 3. You get the refills all within 100 days of the day the Doctor wrote it. 4. You present an in date plastic card when you ask for the refill. ☐ YOU MAY HAVE TO PAY 50¢ FOR EACH MEDICAID PRESCRIPTION FILLED AND \$1.00 FOR EACH PHARMACY ASSISTANCE PRESCRIPTION FILLED.

IF YOU ARE JUST STARTING ON THE PROGRAM, YOU MUST GET ALL NEW PRESCRIPTIONS WRITTEN BY YOUR DOCTOR ON A SPECIAL STATE FORM.

☐ IN SOME CASES WE WILL HAVE TO GIVE A DIFFERENT BRAND OF THE SAME

□ VERY EXPENSIVE DRUGS WILL HAVE TO BE AUTHORIZED BY THE STATE. WE MAY HAVE TO GIVE YOU A SMALL QUANTITY UNTIL WE CAN GET THE STATE

MEDICINE THAN THE DOCTOR ORDERED.

APPROVAL.

APRIL, 1983

## Thanks, University of Maryland School of Pharmacy

Baltimore, Maryland



These young people recently spent a very full day at Abbott, touching bases in research, development and production.

Many of them were impressed—and said so—with the hundreds of steps and precautions taken to assure a top-quality product.

We were impressed, too—with them.

They were bright, curious, professional and very excited about their careers.

It was a good day. And one way we know of starting—and keeping—a dialogue.





Stephen Farmer, Manager of Pharmacy Affairs for Roche Laboratories addressed the March 10th meeting of the Baltimore Metropolitan Pharmaceutical Association. A variety of industry related subjects were discussed.



... I.C. System, the association-approved collection service, has named lan Turner, Mount Airy, Maryland, as divisional manager of the company's Capitol Division. Capitol includes the states of Maryland, Virginia, West Virginia, and the District of Columbia



The Eastern Shore Pharmaceutical Association Annual Banquet in Berlin, Maryland featured an address by Dean William J. Kinnard, Jr. (right) shown with MPhA Vice President William Hill (left) who recently appeared on the cover of *American Druggist*.



Eastern Shore Pharmaceutical Association President Dennis Hager (left) presided over the event and is shown with MPhA President Milton Sappe (right).

This page donated by District-Paramount Photo Service.

Pictures courtesy Abe Bloom — District Photo

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### 1983 THIRD PARTY CHART

Special Thanks to Linda Gray Melvin Rubin

(detach these pages and post for easy reference)

This chart is available to non-members for only \$10.00. Contact the MPhA office for details.

Program	Cost	Fee	Maryland Rx Only/ Local Ordinance
Aetna Life and Casualty Claim Dept EBD Pharmacy Claim Unit 151 Farmington Avenue Hartford, Connecticut 06156 203) 273-4729	ACQ	3.75	See Aetna Manual
Associated Prescription Service (APS) The Chesapeake Building 2017 Red Branch Road Columbia, Maryland 21045 Balto.) 955-1941 Wash.) 621-5150	AWP	up to \$2.75	Yes/Yes
Blue Cross of Maryland 700 East Joppa Road Towson, Maryland 21204 494-5673	ACQ	3.30	Yes/Yes
Group Prescription Service 5300 York RD Balto. Md, 21212 435-1950	AWP	2.50	Yes/Yes
Chesapeake Health Plan P.O. Box 9048 Balto. MD, 21222 285-8000	AWP	3.10	Yes/No
ron Workers #16 6229 North Charles Street Baltimore, Maryland 21212 377-6010	AWP	2.50	Yes/Yes
Medicaid Medicaid Assistance Operation Admin. State Dept. of Health and Mental Hygiene P.O. Box 1935 Baltimore, Maryland 21203 383-2658 Policy 383-6893-payments	ACQ or MAC	Maximum of \$3.25 (fill in u/c selling price)	Yes/Yes
Metropolitan Medimet Claim Office P.O. Box 3018 Utica N.Y. 13504 315) 797-5405	ACQ	\$2.80 G.E. Re- tirees u/c	Yes/Yes
Paid Prescriptions 9.0. Box 434 Paramus, New Jersey 07652 201) 845-9000 1-800-631-1679	*	Varies	•
Prescription Drugs Inc. (PDI) 9008 Red Branch Road Dakland Ridge Industrial Park Columbia, Maryland 21045 997-3550	AWP	2.75	Yes/Yes
Pharmaceutical Card System (PCS) P.O. Box 20831 Phoenix, Arizona 85036 602) 257-1500	Varies	Varies	Some programs
The Travelers Group Health Claim 1952 Whitney Ave. Hamden Ct, 06517 203-281-2081	AWP	3.00	Yes/Yes
Willse & Associates 600 MD Trust Bldg. Balto, MD 21202 547-0454 for 1199E)	AWP	\$3.10	Yes/Yes
Space for any additional plans your pharmacy has			

Allowable Refills	Day/Dollar Limit	Computer Billing	Payment Cycle	Oral Contraceptives	отс	Injectibles	Insulin	Syringes, Diabetic Equipment	Misc.
1 year, 6 month controlled drugs	34 day (Manual lists exceptions	Hard-copy	Processed weekly	If Card marked "c"	No	For home use			Some paper cards must send transmittal must use correct pharmacy fee
1 year	see chart "A" preauthorization needed over \$40.00	Hard copy print- out	15th, 30th	see chart "A"	See chart ''A''	See chart "A"	Yes	Plan 9	Additional reimburse for compounding
1 year	34 day. See Chart "B" maintenance list of 34 day/100 doses Mack truck/G.M. 200 doses	Tape hard copy	Daily-pay within 5 days	No	No .	No		Mack trunk & G.M. pay for syringes with insulin only P 26 Blue Cross Guide	
1 year	34 day, 100 dose	No	15th, 30th	Fund 001 002 003 003 Others—no	No	Yes	Yes	No	
Per M.D.	Preauth. required over \$40.00 drugs, over \$15.00 supplies. 34 days. 34 days or 100 doses on maintenance list	Hard copy	15th, last day of month	Some Groups	No	Yes	Yes	Syringes, supplies	Card must be imprinted
5	Greater of 34 days 100 doses	No	15th	No	No	No	No	No	Must include drug name on form
2 within 100 days if on original	100 day maximum including refills pre- auth. needed over \$50 u/c	Tape	Every Wednes- day	Six months allowed no preauth, for price needed. (may change soon to 3 month minimum and one refill)	No	Yes	Yes	Syringes	"F" card—no deductible "S" card—50¢ yellow & white card—\$1.00 must use state form see lists of nonreim- bursements chart "D" special numbers needed for syringes, compounds
1 year	Varies from 34-100 days some 200 doses allowe they will reduce pay- ment if you dispense above limit of day supply		Weekly	Some plans	Some plans		Yes	No	NABP # is ID G.E. re- tirees pay \$2.00 deduc plus all above \$10.00 o your u/c medimet pays maximum of \$8.00. some paper cards
Per MD	•	Tape hard copy	Bimonthly	*	No	*	Yes	* special numbers to use when dis- pensing syringes— P32 of paid 10/82 catalog	* indicates—see chart "C" be sure your plan number is on each form
3	34 days or 100 doses	Таре	Claims in by about 20th paid in about 3 weeks	Yes	No	Yes	Yes	Only funds 503, 515, 519, 505, 569, 531, 542, 544, 551— syringes & supplie	
5	34 days except maint. lists up to 100 doses	Hard copy tape	Bimonthly	Some programs	No	Some	Yes	number is grams list card prog	astic card be sure your plar s on each form. Some pro- dependent name on plasti rams too numerous & varied rize—see manual
Per M.D.	Greater of 34 days or 100 doses.	Hard copy printout	On receipt	No	No	Yes	Yes	Bendix plan 158600 pays for insulin syringes with insulin Rx only.	Must send transmittal some groups have paper cards
Per M.D.	34 day, 34 day or 100 doses on maintenance list	Printout	On receipt	No	No	Call	Yes	No	Use universal or local 1199E form. Doctor's signature not required

APRIL, 1983 '



# I just push the right buttons and order any time—day or night!

Upjohn service to pharmacists has always been excellent. We were the first to provide free nationwide WATS phone service. Now it can be even better than that. Our new D.O.E.S system, Direct Order Entry System, does it

With a push-button phone\* you can order just by pushing the right buttons

Our electronic computer lady helps you, and the average order can be placed in one minute—faster than voice communications. Your order is then relayed in minutes to the distribution center nearest you.

Best of all, you can place your order any time of the day or night—seven days a week—before, during, or after hours-at your convenience.

Faster service. more convenience, greater accuracy—good reasons to stay in touch with Upjohn.



§ 1982, The Upjohn Company, Kalamazoo, MI 49001 \*Dial phones may be used with an adapter

## ASSOCIATED PRESCRIPTION SERVICES PLAN FORMATS

#### Chart A

As we add new accounts, unless there is a special feature to the FUND, there will be no bulletin sent out. If there is no blan on the I.D. card refer to the Fund Description.

A PLAN will consist of a NUMBER which defines coverage and LETTER(S) indicating limitations and exceptions.

ALL Plans shall cover Legend Drugs UNLESS specifically excluded by the Plan.

ALL Plans shall EXCLUDE immunological agents and appliances UNLESS otherwise indicated.

ALL Plans include Compounded Medications if at least one ingredient is a Federal Legend Drug in a therapeutic ount.

PLAN NUMBER 1	ORAL CONT. YES	CERT. OTC YES	INJECT. YES	INSULIN YES	MISCELLANEOUS
2	NO	NO	NO	YES	
3	YES	YES	NO	YES	
4	NO	YES	NO	YES	
5	YES	NO	NO	YES	
6	NO	NO	YES	YES	
7	YES	NO	YES	YES	
8	NO	YES	YES	YES	
9	NO	NO	NO	YES + Syringes	NO Rx Vitamins

#### IMITATIONS AND EXCEPTIONS

A = Up to a 100 Day Supply

B = Up to a 34 Day Supply or 100 Doses, whichever is greater

C = Up to a 34 Day Supply Only

D = Up to a 34 Day Supply/100 Days Supply for Approved Maintenance Drugs

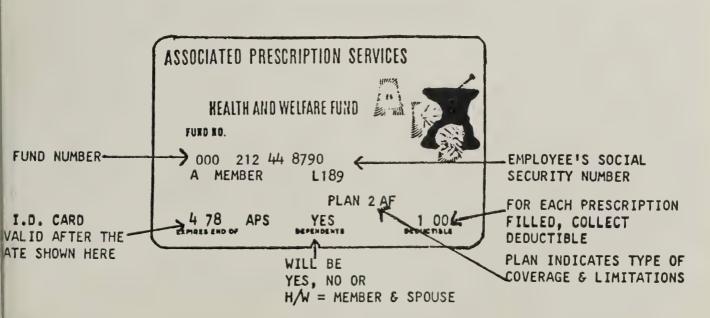
E = Up to a 34 Day Supply or 100 Doses, whichever is greater. Up to 100 Days for Approved Maintenance Drugs

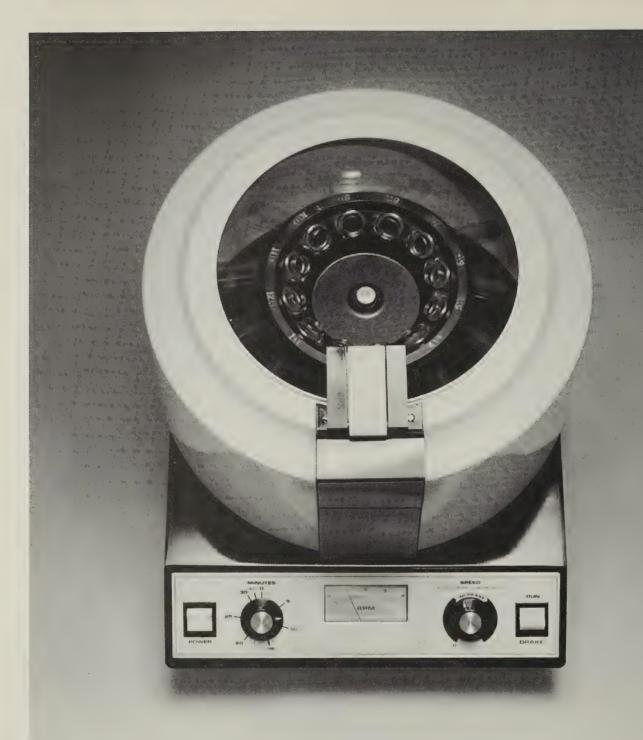
F = ON PRESCRIPTION ONLY—insulin syringes, needles (two), disposable syringes and needles, sugar test tape or tablets, acetone test tablets, clinistix, clinitest kit, Benedict's solution or equivalent, Glucalgon injection.

N = NO VITAMINS—whether legend or not

S = ON PRESCRIPTION ONLY—syringes and needles

For all accounts, the cost of ingredients should not exceed \$40.00 without prior authorization UNLESS the medication for less than a fourteen (14) day supply.





### Research Roulette

In 1981, the cost of developing a new chemical entity was \$77 million. Yet, three out of four new chemical entities marketed never recapture their R & D investment.

Surprising? Yes. But, the real surprise is that today's drugs consume only 8 percent of all health care costs as compared with 16 percent 40 years ago.



#### **BLUE CROSS MAINTENANCE LIST**

#### Chart B

The quantity of prescription drugs which may be dispensed pursuant to an original prescription order or a refill is limited to a supply sufficient for thirty-four (34) consecutive days. However, drugs prescribed for "chronic conditions" may be dispensed in maximum quantities of a 34-day supply or 100-unit doses, whichever is greater. The following is a list of maintenance drugs that can be dispensed in 100-unit doses:

Acetazolamide

Acetohexamide

Allopurinol

Bendroflumethiazide

Benzthiazide

Chlorothiazide

Chlorpropamide

Colochicine

Colochicine Probenecid

Conjugated Estrogens USP

Digitalis Leaf Digitoxin

Digoxin

\*Diphenylhydantoin Sodium\*\*

Furosemide

Gitalin

Hydrochlorothiazide

\*Isoniacide\*

\*Levothyroxine\*\*

\*Liothyronine\*\*

Metolazone

\*Methyclothiazide

Nitroglycerin \*Para-aminosalicylic acid\*\*

Pentaerythritol Tetranitrate

Phenylbutazone

Phenytoin (Diaphenylhydantoin)

Polythiazide

Potassium Chloride Liquid

Primidone\*\*

Probenecid

Propranolol Hydrochloride

\*Propylthiouracil

Quinidine Sulfate

Reserpine

Spironolactone

\*Thyroglobulin\*\*

\*Thyroid, Natural\*\*

Tolazamide

Tolbutamide

Trimaterene

Trichlormethiazide

These generically listed entities are covered in the Program in all brands marketed.

\*Products listed with a single asterisk on the left (\*) may be dispensed in 200 unit dose quantities or a 34-day supply, whichever is greater, for only those subscribers whose ID cards exhibit a \$3 copayment amount. All of these cards will state "MOTORS" and a group number of X010 through X099.

\*\*Products listed with two asterisks on the right (\*\*) may be dispensed in 200 unit dose quantities or 34-day supply, whichever is greater, to Mack Truck employees whose ID cards exhibit a \$2 copayment and a group number of: K214,

K258, K701, K703, K704, K709.

-Preparations which require a prescription under Maryland Law

-Compound Prescriptions-must contain at least one legend drug.

-Insulin-up to four vials.

Benefits are not provided for the following:

-Over-the-counter preparations

-Contraceptive Drugs-in any form, even if prescribed for other than contraceptive purposes. If this benefit is offered in the future you will be notified by special bulletin.

—Devices of any type—even if prescribed. This includes hypodermic syringes and contraceptive devices.

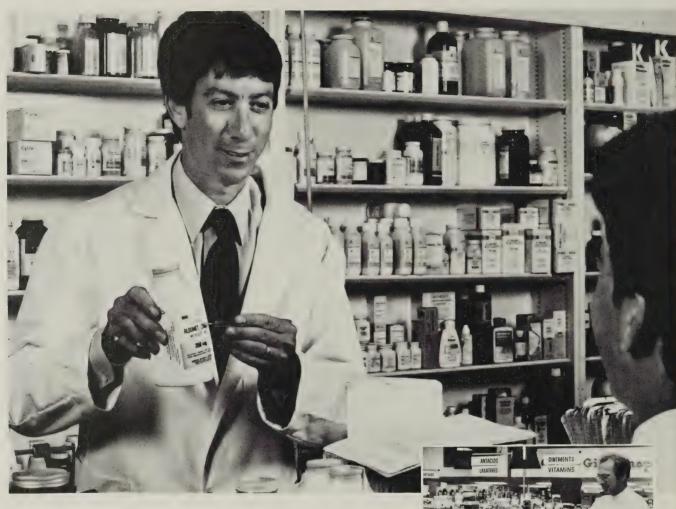


Mrs. Virginia H. Knauer, Special Assistant to the President for Consumer Affairs (second from left) praises USP's consumer reference, About Your Medicines. Pictured with her are (l. to r.) William M. Heller, Ph.D., USP Executive Director, William J. Kinnard, Jr., Ph.D., USP Chairman of the Board, and Keith W. Johnson, Director of Research & Development, USP Drug Information Division.



The E. R. Squibb Company presented an award to mark the filling of One Million Prescriptions. (From Left to right, William Mitchell and J. D. Jack Peters from Squibb present the award to Norman Sober and Harold B. Singer.)

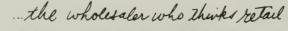
# "When I lose track of my inventory, I lose track of my profits... so I rely on The Drug House."



We realize that you, as an independent businessman, need a wholesaler who understands your *total* needs. Not just product, but advertising, inventory control, and management assistance. We're staffed with experts who can help your business grow. Rely on us.

Our Direct Order Entry System cuts order time to a split second operation. Simply press the buttons on the small hand-held module and your order is recorded in the unit's electronic memory. Then, just dial the phone and your order is quickly transmitted into our centralized computer. A 400 item order can be transmitted in under 60 seconds. We also supply price stickers customized with your retail prices.

Call us today and get the services of a systems experts... and a full line wholesaler all in one!





#### THE DRUG HOUSE, INC.

An Alco Standard Company

Philadelphia Division (215) 223-9000 Ed Helfrich Harrisburg Division (717) 236-9071 John Earlen Baltimore Division (301) 467-2780 Tom Johnson Johnstown Division (814) 288-5702 Neil Smith

written up to a 34-day supply or up to 200 units, whichever is greater.

Z

Acetarolanide Acetohexamide Benzthiazide Allopurinol

Colchicine Probenecid Conjugated Estrogens U.S.P. Digitalis Leaf Hydrochlorothiaxide Levothyroxine\* Chlorothiazide Chlorpropamide Liothyronine\* | soniazide\* Colchicine Digitoxin Digoxin Gitalin

Pentaerythritol Tetranitrate Para-Aminosalicylic Acid\* Potassium Chloride Liquid Propenolol Hydrochloride [richlormethiaxide Quinidine Sulface Natural Thyroid\* Spironolactone Thyroglobulin\* Mitroglycerin Polythiazide Tolbutamide Probenecid Tolazamide Phenformin Phenytoin\* Primidone Reservine Methyclothiazida

2

25

Under Plan 2S and 2P the following drugs are covered in addition to the 2A list:

Sendroflumethiazide Trienterene Purosemide

Propylthiourscil\* Chlorthalidone Metolazone

# Some representative brand names are:

Metabydrin Synthroid\* Tolinase Naturetin Peritrate Kay Ciel fysoline Premerin Serpasil (yloprim Proloid\* Orinese Lanoxin Renese Nague Lesix Hydrodiuril Hygroton Aldactazide Colbenemid Gitaligen Aldactone Disbinase Dilantin\* Dyrentum Dyrentum Cytomel\* Enduron Senemid Diamox Inderal Diuril Exms

Fertility medication is not covered 6 F 54

prescription, [B80] .../.....

7.8

9 9

5B

2**A** 

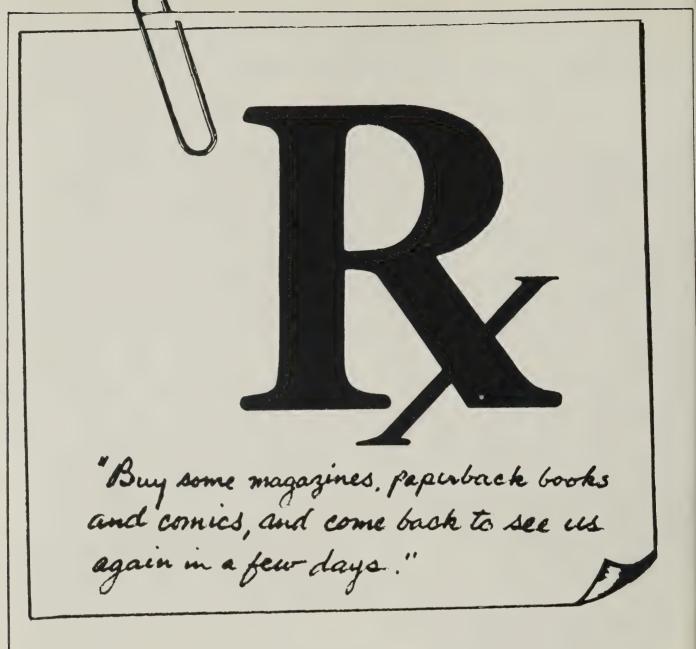
3	44 44	2	SF
Ch	ıar	t (	•

		N.Contraction of the contraction	Constitution of the same	WARA IIRRIGAD	ANJECTABLES	DKUGS	4 SYRINGES
	Give up to a 35 consecutive day supply or up to 105 consecutive day supply for specific maintenance drugs.	AWP	Not Covered	Not Covered	Covered	Covered	Not Covered
	Give up to a 34 day supply. Natural Thyroid and Nitro-glycerin is to be glycerin is to be to 100 units.	Net Acq Cost	Not Covered	Not Covered	Covered	Not Covered	Not Covered
	Give up to and includ- Give 100's (or 200's as Indicated) of listed maintenance drugs when ordered.	Cost	Not Covered	Not Covered	Covered	Not Covered	Not Covered
a	Give up to and including a 34 day supply. Give 100's (or 200's as indicated*) of listed anahtenance drugs when ordered.	Net Acq Cost	Not Covered	Not Covered	Covered	Not Covered	Covered **
	Give up to and including a 100-day supply when ordered.	Net Acq Cost	Not Covered	Nor Covered	Covered	Covered	Not Covered
	Give up to and includ- ing a 100-day supply when ordered, plus OTC drugs on prescription only.	Net Acq Cost	Not Covered	Not Covered	Covered	Covered	Not Cavered
	Give up to 100 units if greater than 34-day supply when ordered.	AMP	Covered	Not Covered	Covered	Covered	Not Covered
	Give up to 100 days supply when ordered.	AWP	Covered	Not Covered	Covered	Covered	Not Covered
	Give up to 100 units if greater than 34-day supply when ordered.	AMP	Not Covered	Not Covered	Covered	Covered	Not Covered
	Give up to 100 days supply when ordered.	AirP	Not Covered	Not Covered	Covered	Covered	Not Covered
	Give up to 60 days supply when ordered.	AMP	Not Covered	Not Covered	Covered	Covered	Not Covered
<u> </u>	Give up to 100 units if greater than 34-day sup supply when ordered.	AWP	Covered	Not Covered	Covered	Covered	Covered
	Give up to a 90-day supply when ordered.	AWP	Covered	Not Covered	Not Covered	Covered	Covered
	Give up to 100 units if greater than 34-day supply when ordered.	AMP	Covered	Covered	Covered	Covered	Covered
[Au	Give up to 100 units if greater than 34-day supply when ordered.	AMP	Not Covered	Not Covered	Covered	Covered	Covered

38

Syringes must be billed on same claim form as Insulin.

Under Plan 2P, Insulin Needles and Syringes are covered whether billed separately or on the same claim form.



That's the prescription you can fill again and again for your customers if you have a fully stocked magazine department.

Reading is a tonic for everyone. SELLING the reading material is our specialty. And it should be yours because turnover is the name of your game and nothing you sell turns over faster or more profitably than periodicals.

If you're not now offering periodicals to your customers, you should be. Just ask us how profitable it can be.

And if you do have a magazine department, chances are your operation has outgrown it and it should be expanded.

Get on the bandwagon. Call Phil Appel today at:
The Maryland News Distributing Co.
(301) 233-4545

#### Chart D

#### **ADDITIONAL MEDICAL ASSISTANCE RULES**

#### SPECIAL NDC NUMBERS ASSIGNED FOR MEDICAID USE ONLY

syringe & needles Compounded No available NDC 996-1111-00 998-0000-00 999-0000-00

#### NON-REIMBURSABLE ITEMS UNDER MEDICAID

NO ANORECTIC MAY BE DISPENSED ON A MEDICAID PRESCRIPTION UNLESS THE PHYSICIAN WRITES IN HIS WN HAND 'Hypokenesis' or 'Narcolepsy.

Following is a list of the most widely used drugs falling under this rule. All Anorectics are affected.

Biphetamine Bontril Desoxyn Dexamyl Dexedrine Didrex Fastin Notrol Obedrin

Obetrol Phenteramine Plegine Pondimin

Presate Sanorex Tenuate Tepanil

Voranil

Note that Ritalin is *not* restricted by this rule.

MEDICAID NOTES:

MAC may be overridden by physician if he specifies 'medically necessary' in his own hand on each Rx and the pharmast places 'X' in the block in lower left corner of claim.

You must bill the State the same price you charge the cash customer before any special discounts. You will be paid e lesser of that amount or the cost as defined by the State plus \$3.25 professional fee.

If U&C charge is over \$40.00 you must call for preauthorization and may request the right to reduce quantities. You annot reduce quantities on your own. Baltimore area: 383-7716 Other areas: 1-800-492-6008





PROTECT YOURSELF **AGAINST A MALPRACTICE** SUIT

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## 'Less Than Effective Drugs'—Short Reference List.

The list published by the State indicating the non-reimbursable drugs under Medicaid is now 7 pages long, including brand and generic names. Below we are naming in shorthand form those items most likely to be prescribed. Add any drugs from the State list that you may get calls for and post for quick reference.

Except where noted all brands including generics are non reimbursable, and unless specific dosage forms are noted, all forms (liquid, tablet, suppository etc) are affected.

#### LIST OF DRUGS CURRENTLY DETERMINED TO BE LESS THAN EFFECTIVE AND NON REIMBURSABLE ON MEDICAID as of FEB 1, 1982

(Abridged list—refer to bulletin sent by State for complete list)

Actifed C Expect Amben H Expect

Amesac Ananase Arlidin Avazyme Azo Gantanol

Bentyl/Phenobarbital Betadine Vaginal Gel Butazolidin Alka Cantil/Phenobarbital

Cantil/Phenob Caldecort Carbrital Cartrax

Celestone/Neomycin

Cetacaine
Chymoral
Clistinra
Combid
Car-Tar-Quin
Copyronil
Cordran-N
Corovas
Cortisporin
Cyclandelate
Cyclospasmol

Dainite
Dainite-KI
Daricon PB
Deaner
Deprol
Dibenzyline
Dimethane Expect
Dimethane Expect D.C.
Dipyridamole

Diutensen Donnatal Extentabs

Equagesic Erythrocin Erythromycin

Fiorinal Forhistal Tablets Histaclopane

Hydrocortisone/Neomycin

Isosorbide

Isordil/Phenobarbital Isoxsuprine HCI

Kenalog-S Librax Lufyllin-EPG

Marax Mepergan Fortis Meti-Derm/Neomycin

Midrin Migral Miltrate Myco Triacet Mycolog Naturetin/K

Naturetin/K
Neo-Aristocort
Neo-Aristoderm
Neo-Cort-Dome
Neo-Cortef
Neo-Decadron
Neo-Decaspray
Neo-Delta-Cortef
Neo-Domeform-HC
Neo-Hydeltrasol
Neo-Hytone
Neo-Medrol Acetate
Neo-Nysta-Cort
Neo-Oxylone
Neo-Synalar

Neonycin Sulfate & Hydrocortisone Neosporin Neosporin-G Nylidrin HCI Nysta-Cort Nystaform-HC

Nystatin-Neomycin Sulfate Gramicidin-Triamcinolone

Acetonide Omnituss Onycho-Phytex Orenzyme Oxaine M

Papase Parafon Forte Pathibamate Pathilon Sequels
Pathilon/Phenobarbital
Peritrate/Phenobarbital
Pentylenetetrazol Containing
Products including:

Metrazol Nico-Metrazol Vita-Metrazol Phenergan Expect Phenergan Expect CVD Phenergan Expect VC Phenergan Expect VC CVD

PBZ EPHED. Potaba

Pro-Banthine/Phenobarbital

Propazine Propion Gel Quadrinal Quibron Plus

Rautrax Rautrax N Roniacol

Sterazolidin Supertah H-C Synalgos Synalgos DC Terra-Cortril

Tigan Tri-Statin Trocinate Tussione X Valpin PB Vasocon-A

Vasodilan Vioform-Hydrocortisone

Vytone Vytone

vytone

Wyanoids HC

Zactane Zactirin

Zactirin Compound 100

Zetone

All generic and brand names are less than effective if one name appears on this list except for Dipyridamole and Isosorbide (persantine, sorbitrate, and isordil may be reimbursable)

APRIL, 1983

### **ABSTRACTS**

Excerpted from PHARMACEUTICAL TRENDS, published by the St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor and Leonard L. Naeger, Ph.D., Associate Editor

#### **INTRAUTERINE DEVICES:**

Women with diabetes mellitus are often advised against using oral contraceptives because of the likelihood that these drugs may intensify the cardiovascular problems associated with the disease itself. Intrauterine devices were selected for use in 30 such women, but over one-third of them became pregnant within one year. The devices recovered from these women were compared from those taken from non-diabetic women and it was noted that those from the diabetic women were eroded and had large deposits on them. *Lancet*, Vol. I, #8271, p. 531, 1982.

#### **GEMFIBROZIL:**

A new lipid-lowering agent has been approved for general use in this country after almost eleven years of investigation. Gemfibrozil is said to reduce fats by inhibiting peripheral lipolysis, reducing hepatic extraction of free fatty acids, and by inhibiting the very low density lipoprotein carrier apoprotein. The 300 mg capsule (Lopid) is used only by patients having a clearly defined risk of coronary heart disease owing to severe familial hypercholesterolemias not responding to conventional measures. Nausea, vomiting, and abdominal pain are the most frequently cited side-effects. *J Am Med Assoc*, Vol. 247, #11, p. 1540, 1982.

#### ANGINA:

Propranolol has long been used to treat stable angina pectoris, but recently a new calcium channel blocker, verapamil, has been added to the list of effective agents. A study of 10 men indicated that a combination of both drugs may be even more effective than the use of either agent alone. *Br Med J*, Vol. 284, #6322, p. 1067, 1982.

#### **REYES SYNDROME:**

In 1963, an Australian physician and his associates reported a syndrome which started with a viral illness and fever. The child seemingly recovers but then develops vomiting, confusion, delerium, and sometimes coma and death. Reyes Syndrome is said to occur less than one time in 100,000 children under the age of 18 years. In times when influenzae B is mild, as much as 2 or 3 cases per 100,000 children are said to be affected. Influenzae A is less commonly associated with this phenomenon. The use of salicylate type medication has been said to be associated with a higher incidence of the syndrome, thus some clinicians have suggested that warnings be issued against the use of aspirin to treat symptoms of influenza. *J Am Med Assoc*, Vol. 247, #11, p. 1539, 1982.

#### **DRUG USE IN TEENS:**

A survey involving over 17,000 high school senior students indicated that cigarette smoking along with marijuana smoking has decreased since the last survey was taken. The use of LSD, cocaine, and heroin did not increase, but illicit drugs had been used by two out of three people in the study. Amphetamine use appeared to be on the increase. *Am Med News*, Vol. 25, #10, p. 6, 1982.

#### **HEPARIN:**

Low doses of heparin (5000 u twice daily) have been used to reduce the likelihood of blood clot formation without increasing bleeding tendencies. To test its efficacy in immobile medical patients, a group of subjects were given the drug and results compared to a control group. Results from the study, which included approximately 1400 patients, indicate that heparin reduces the mortality rate by approximately 30%. These authors suggest that immobilized medical patients not at risk of bleeding be considered for low-dose heparin therapy. Ann Intern Med, Vol. 96, #5, p. 561, 1982.

#### **NOCTURNAL ASTHMA:**

Difficulty in breathing limits the ability of some asthmatics to have a restful night's sleep. Various regimens have been used to help prevent discomfort, but the use of a single dose, slow release aminophylline preparation may be the most effective. Doses of 10 mg/Kg produced relief without any obvious side-effects. *Lancet*, Vol. I, #8267, p. 301, 1982.

#### **BENZODIAZEPINE WITHDRAWAL:**

Two different benzodiazepine derivatives were given to patients having difficulty sleeping. The drugs worked well for 24 weeks at which time they were withdrawn. For from 2 to 4 days after discontinuation of therapy, the quality of sleep experienced by the patients was below baseline levels obtained earlier indicating a type of mild withdrawal phenomenon. *Br Med J*, Vol. 284, #6319, p. 860, 1982.

#### **ENDOMETRIAL CANCER:**

A retrospective study has shown that the incidence of endometrial cancer is less in women taking oral contraceptive products than in those not using the medication. The greatest degree of protection was provided by products with predominantly progestational activity while those with estrogenic dominance provided the least protection. *J Am Med Assoc*, Vol. 247, #4, p. 475, 1982.

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SCHEDULED SUBSTANCE INVENTORY May 1983. DEA no longer provides forms. Forms available for \$7.50, send check by April 10, 1983. N.C. Pharmacy Magazine P.O. Box 1814 Lumberton, N.C. 28358

#### Phi Delta Chi Celebrating Centennial and Searching for Missing Alumni Brothers

Founded in Ann Arbor, Michigan in 1883, Phi Delta Chi Professional Pharmacy Fraternity is celebrating its centennial year. Nationally the Fraternity has chartered 57 undergraduate chapters and initiated over 30,000 members. Currently there are 46 active chapters and 32 alumni associations.

To commemorate the 100th anniversary of Phi Delta Chi, its national convention in St. Louis on July 28-August 2 will focus on the history of the organization and its contributions to the profession. This 54th Grand Council will include a special luncheon honoring past Grand Officers and alumni, and will include a four hour accredited continuing education program.

During the centennial year, Phi Delta Chi is attempting to locate missing alumni and establish an accurate roster. Any alumni who have not been contacted in the past two years are requested to write the Grand Vice-President of Alumni Affairs and indicate their chapter and year of graduation. Correspondence should be sent to Dr. James E. De Muth, Extension Services in Pharmacy, 425 N. Charter St., Madison, WI 53706. Contact prior to July 1 will ensure inclusion on the centennial roster of Phi Delta Chi Alumni.



Dear Sir:

Please announce in THE MARYLAND PHARMA-CIST the death of Mrs. Esther Beach Swain, widow of Dr. Robert L. Swain. She died at the age of 89 after a serious illness on February 22, 1983 in New York, N.Y. She was buried in Sykesville, Md., where she was born and where she married in October 1911, Dr. Swain who was then conducting a pharmacy in that town.

Dr. Swain was a former secretary-treasurer of the Maryland Board of Pharmacy, editor of The Maryland Pharmacist and president of the Maryland Pharmaceutical Assn.

Mrs. Swain's survivors include a son, Robert L. Swain Jr. of Jackson Heights, N.Y., and two grandchildren: Stanley Woodbridge Swain of Washington. D.C., and Patricia Howard Swain of New York, N.Y.

I will appreciate getting the magazine with the announcement.

Thank you.

Sincerely yours,

Robert L. Swain Jr.

#### calendar



April 7 (Thurs)—Computer Seminar—Pikesville Hilton, SAPhA sponsored

April 10–13—APhA Annual Meeting, New Orleans April 14 (Thurs)—MSHP Monthly Meeting

April 17 (Sun)—MPhA Spring Regional—at School of Pharmacy

April 30-May 1—Board Meeting, Easton, Maryland May 11 (Wed)—Coalition of Long Term Care Providers Banquet

May 18 (Wed)—Alumni Association Graduation Banquet, Martin Eudowood

June 18–20—MSHP Annual Seminar, Atlantic City June 26-30—MPhA Convention in Ocean City

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## THE MARYLAND PHARMACIST

Official Journal of The Maryland Pharmaceutical Association

May, 1983 VOL. 59 No. 5



#### **Convention Issue**

Salary Survey Results
Fluids, Fiber and the Elderly

- Peter P. Lamy, Ph.D.

June 26–30, 1983 First Ever Joint Convention MPhA, Delaware, and D.C. Be There

#### THE MARYLAND PHARMACIST

650 WEST LOMBARD STREET **BALTIMORE MARYLAND 21201** TELEPHONE 301/727-0746

MAY, 1983

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#### PRESIDENT MESSAGE

#### RECOLLECTIONS AND REFLECTIONS ON CONVENTION

The APhA Convention opened on time in New Orleans even though the area had been hit by torrential rains and subsequent flooding a few days before. It is a shame that some conventioneers let themselves be dissuaded by television and radio reports because the city at the end of the Mississippi truly lends itself to all the aspect of conventioneering. The weather became pleasant and balmy, allowing most of us to roam through the French-quarter, an area of about 20 square blocks crammed with restaurants, interesting shops and cafes; and also to take a trip on the "Natchez" up the river.

The Convention itself held a multitude of interests for everyone; student, academician or practicing pharmacist. The Exhibit hall housed displays by most of the drug companies, many computer firms and providers of other ancillary services. An opthalmic manufacturer offered a one hour C.E. course, A.H. Robins Co. gave a self-evaluating exam and a public relations firm gave away golf or tennis balls for filling out questionnaires. This was a good place to have one on one discussions with manufacturers or their representatives and no one was rushed. It was little dismaying sometimes to see some of my peers and their spouses swooping down on

exhibits like locust devouring all the free samples.

At the House of Delegates meeting, it was announced that a committee was formed to find a replacement for Bill Apple who has, for so many years, been a most distinguished and forceful advocate for pharmacy. There were opinions presented by outside speakers that pharmacy might become more competitive and that the idea of freedom of choice might be overlooked in a health delivery system geared to efficiency and effectiveness. During the last session of the House, there seemed to be the feeling that the hierarchy did not always reflect the wishes of the delegates. In fact, there even seemed to be an attitude of militancy. First, the house voted to allow nominations from the floor, which has not always been the case; second, to allow resolutions to be brought before the House as late as 24 hours before the last session and third, refused to support any patient information system that did not present the pharmacist as a provider of health information. A resolution to study the nurse practitioner problem was presented by the delegates from Washington State was tabled for further study. This last problem seems to be rearing it's head nationwide and must be watched vigilantly.

All in all, the convention was a rewarding experience and it is a shame more

of us were not able to attend.

## Salary and Employment Conditions Survey

by

#### W. Randall Wampler

In an attempt to assess the current salary level and employment conditions of pharmacists in the State of Maryland, the Maryland Pharmaceutical Association mailed a survey to its members in December of 1982. There was a response rate of 23.18%. Table I breaks down the respondents according to practice setting; while Table II give the breakdown of respondents by sex.

The salary information is presented in Tables III through VII broken down in several ways. Table III gives a breakdown of average salary by age. Due to the small sample size at certain age levels those salaries may not be consistent over a larger sample. However, a trend, which has shown up in previous surveys is present. The average starting salary for pharmacists is relatively high, but appears to rise slowly over a 20 to 25 year span and then plateaus with minimal changes in the subsequent years.

Table IV give the current finding for the average salary for pharmacists in the State of Maryland. The current level of \$31,001.52 represents an increase \$6,625.00 over the average salary found in the 1980 survey. (The 1980 survey had response rate of approximately 19%, therefore the increase cannot be attributed to a decrease in sample size.) The most startling finding is the over \$3,000.00 difference in the average male salary when compared to the average female salary. On the surface, one might contribute this difference to the inequity in sample size between male and female respondents, but this breakdown is very close to the national figures which show that about 20% of practicing pharmacists

are female. The factor which probably best explains this difference is that the number of females in practice has grown tremendously in the last five to seven years. This means that the average woman in practice is just beginning the climb up the experience and salary ladder, whereas many of the men who answered have been in practice for 20 or more years and are now near the top in their earning potential.

The breakdown of salary according to geographic practice setting in Table V shows a 20-25% increase across the board over the 1980 survey in these areas. The relationship between salary level and geographic area showed little change.

Twenty-five of the respondents worked part-time. From the figures reported for the hourly part-time wage, an average of \$11.36 per hour was calculated as shown in Table VI. This represents an increase of 13.6% over the level reported in 1980.

Table VII, while being deficient in certain areas due to very small sample size, contains some useful information. First, the constant trend in the salaries for staff pharmacists is still present. The lowest paid staff pharmacists are those working for independents, while the highest paid work for chains. The hospital pharmacists fall in between these two. The second trend which has also held true from the 1980 survey is the fact that the pharmacy or store managers and the chief hospital pharmacists are becoming the highest paid pharmacists, approaching and in some cases surpassing the independent owners.

These salary figures are only a part of the picture, especially for the employee pharmacist. Benefits are becoming an increasingly important component of a person's actual gross earnings. This is of less importance to the independent owner, however, since what are normally considered benefits for employees cannot be considered as such

W. Randall Wampler is a graduating Pharmacy Student from the Medical College of Virginia who completed this article as part of a special studies rotation within the Association Office. Linda Gray, a graduating Pharmacy Student from the University of Maryland School of Pharmacy, assisted in conducting and evaluating this survey.

#### SALARY SURVEY DATA SUMMARY

#### Table I--Respondents

Pharmacy Owners	
Part	(21)
Sole14.51%	(37)
Pharmacy or Store Manager18.43%	(47)
Chief Hospital Pharmacist3.53%	(9)
Staff Pharmacist	( - /
Independent17.65%	(45)
Chain19.61%	
Hospital9.41%	
Other8.63%	
TOTAL	(255)

#### Table III--Average Salary by Age

Age	Salary	<u>#</u>	<u>8</u>
21-25	28,707.57	(14)	7.04
26-30	28,665.57	(43)	21.61
31-35	31,759.36	(33)	16.58
36-40	31,133.33	(21)	10.55
41-45	36,765.33	(15)	7.54
46-50	36,100.00	(22)	11.06
51-55	32,911.76	(17)	8.54
56-60	32,056.52	(23)	11.56
61-65	35,277.78	( 9)	4.52
66-7Ø	42,500.00	(2)	1.01

This became evident when for owners. looking at the surveys. Most of the owner responses concerning benefits were "no" or "not applicable." On the other hand the benefit packages offered most employee pharmacists were comprehensive and varied. Most reported receiving paid vacation, sick leave, paid holidays and personal purchase discounts. A majority reported receiving full or partial coverage on health, life, disability, and liability insurance. Infrequent, but not unheard of benefits include paid uninterrupted meals, pension plans and profit sharing. A promising trend in benefits seems to be that several employee pharmacists now have their association dues paid, at least in part, by their employer, and there is also a significant number who receive reimbursement for attending continuing education seminars.

The final table, Table VIII, gives the results of the responses to the employment conditions section of the survey. Here, there were no surprises. As in previous surveys over 80% of the respondents answered either "good" or "excellent" to all questions.

While the results of this survey reflect a relatively small sample size, this number of respondents is rather consistent over the years. This should mean that these figures for salary and other parameters are no more correct nor incorrect than previously, they are merely the compilation of the data received. To improve the accuracy and reliability of the figures in the future a larger number of pharmacists need to return the survey. This information is provided as a service to you, but we can only report on the information we receive.

#### Table II--Respondents by Sex

						<u>#</u>	<u>8</u>
Male Female No Response						.46	79.61 18.04 2.35
TOTAL							100.00
Table	e IV <b>Overal</b>	l Full-ti	ime Sala	ry, M	arylan	d	
Average Salary for Sta Male Female		• • • • • • •				31,556.2	1 (135)
Table VA	verage Salar	y per Geo	ographic	Prac	tice S	Setting	
Geographic Setting					<u>s</u>	alary	<u>#</u>
Anne Arundel County Baltimore City/County. Montgomery County Prince Georges County. *Washington, D.C  * Not inclu		• • • • • • • •	• • • • • • • •		32	3,903.73 3,287.50 3,753.57 4,465.60	(14) (56) (16) (28) (10)
Tab	le VI <b>Part</b> -	-time Emp	loyment	, Mar	yland		
Average Part-time Hour Total Part-time Respon Male Female	dents		• • • • • • •	• • • • •	• • • • • •	1Ø.599 7.Ø69	s ( 25) s ( 18)
Table VIIFull-	time Employm	ent Sala	ry by Pr	actio	e Sett	ing, Maryla	nd
Setting	Average	#	Mal	<u>e</u>	#	<u>Female</u>	<u>#</u>
Pharmacy Owner Part Sole Pharm. or Store Mgr. Chief Hosp. Pharm.	38,391.19 32,516.00 35,694.87 36,666.67	(16) (25) (39) (6)	38,381 33,037 36,670 38,000	7.50 7.00	(16) (24) (30) (5)	20,000.0 32,444.4 30,000.0	4 (9)
Staff Pharmacist Independent Chain Hospital	25,466.52 30,109.50 28,103.33	(23) (40) (15)	26,968 30.484 29,004	.24	(15) (33) (12)	22,650.0 28,342.8 24,500.0	6 (7)
Table V	IIIAttitud	es Toward	d Employ	ment	Condit	ions	
Response		Excel	lent	Goo	<u>d</u>	<u>Fair</u>	Poor
Employee/Supervisor Re Employee/Employer Rela Physical Working Cond:	ationship	53.4 46.3 33.4	26% Ø5%	34.9 40.9 48.5	7% Ø%	9.22% 10.57% 15.02%	2.43% 2.20% 3.43%

34.44%

38.68%

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3.43%

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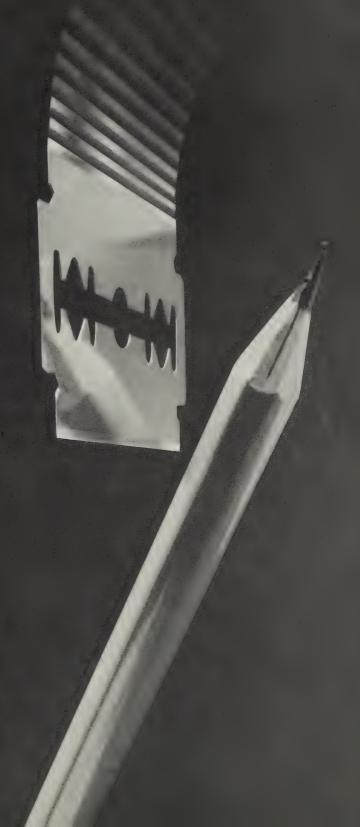
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## Fluids, Fiber and the Elderly

by

Peter P. Lamy, Ph.D., F.A.G.S.

#### **FLUIDS**

Water: The thirst mechanisms of the elderly is not functioning as effectively as it did in younger years and that, in addition to possible fluid restriction often causes dehydration in the elderly. Particularly at risk are those in socio-economic disadvantaged circumstances, in hot summer climate, without air conditioning (sweating can decrease the volume of distribution of water-soluble drugs with subsequent toxic blood levels). Dehydration, itself, can be very dangerous to any elderly person, and those caring for the elderly, including pharmacists, should recognize at least some reasons for restricted fluid intake by elderly (1).

First, and quite often, elderly are simply asked to "take with water," rather than "take with a full glass (8 oz.) of water." Many elderly, in fact, on being placed on a "water pill" for the first time may be told that the "pill" is designed to reduce the body's water level and to get rid of fluids. Elderly, confused by such general information, may indeed think that they help the doctor to accomplish this goal by restricting fluid intake. Aside from highly undesirable dehydration, this may also lead to an increased gastritis, for example, when aspirin taken with too little water. Furthermore, lack of sufficient fluid intake with certain dosage forms, particularly capsules, may cause erratic dissolution and, therefore, drug disposition. Capsules, more than tablets, can be delayed in the esophagus for up to five and even 15 minutes, possibly causing irritation, ulceration, stricture, or even more serious consequences (2). Patients particularly at risk are those with hiatus hernia, stricture, and an enlarged left atrium from mitral valve disease, even though quite often the delay occurs with no abnormal esophageal characteristics.

Recent publications (3,4) drew attention to this potential problem and it has been suggested (5) that capsules should be swallowed only following a lubricating water bolus, then taken with water, followed by a water chaser. J.A. Brown, a physician from Augusta, Georgia, goes one step further. In the October 15 issue of JAMA, he suggested that patients, in order to swallow capsules efficiently, should tilt their head forward before swallowing.

Water and capsules may indeed, interact adversely in another unanticipated fashion. Traditionally, at the bedside of nursing home residents, there is ice water, and it has been speculated that capsules, swallowed with ice water, will not dissolve readily and that there will be a delay in absorption, subsequently. This may be clinically significant when medication is given, in capsule form, designed to overcome sleep latency.

It is most important to counsel patients to take bulk laxatives with a full glass of water. Cases have been reported in the medical literature of elderly patients, anxious to restrict their fluid intake because they felt that would help overcome urinary incontinence, who had to undergo surgery to remove bulk laxatives which had hardened rather than gelled, because of insufficient fluid intake.

Dr. Lamy is Professor and Director, the Center for the Study of Pharmacy and Therapeutics for the Elderly and Chairman, Department of Pharmacy Practice and Administrative Science, School of Pharmacy, University of Maryland at Baltimore, Baltimore, Maryland 21201

Other Fluids: Hypertension is wide-spread among the elderly, and pharmacists counseling elderly hypertensive patients ought to be able to give advise on sodium and caloric content of popular beverages that elderly patients may consume. Table I lists some of these.

Milk: The elderly, perhaps even more so than the general population, are very aware of the differences in milk as far as the fat content is concerned. However, very few people realize that the potassium content varies (Table II) and that the milk probably most often consumed contains the highest amount of potassium (6). When one couples that with recent findings that almost 25% of the elderly buy potassium supplements in health food stores, that intake could become clinically significant.

While milk may well be very beneficial as a source of calcium, and suggestions are beginning to be seen that elderly women, particularly white women over 50 years of age, should increase their milk intake to help ward off osteoporosis, elderly prone to constipation may have to avoid cow's milk, as it is a common cause of constipation, obstipation and fecal impaction in the elderly (7).

Recently a number of questions have been raised in the literature about the possible adverse effect of milk intake by patients with chronic obstructive pulmonary disease (COPD). While it was originally suggested that milk may cause an undesirable increase in phlegm and mucus production in COPD patients, it is now generally agreed that it is not milk intake per se, but replacement of clear fluid intake by milk that is responsible for phlegm and mucus. Many COPD patients, though, report that they tolerate skim milk better than whole milk, and some dietitians have suggested that milk is a good source of potassium and protein for COPD patients.

Disaccharidase deficiency, e.g. lactase deficiency, is beginning to be more frequently recognized as a problem of elderly. Previously thought of mainly as a problem of pediatric patients, this deficiency is a problem to many elderly.

Dietary disaccharides have to be hydrolized

into their component monosaccharides before absorption. Five enzymes (disaccharidases) are responsible for that hydrolysis, including lactase (beta galactosidase).

Lactose, the only carbohydrate present in milk, is hydrolyzed principally by lactase. When lactase activity is low, lactose intolerance results. Hypolactasia may be caused by many factors (Table III), many occurring frequently in the elderly. Perhaps they are responsible for the increasing lactoseintolerance in the elderly. The possibility of lactase deficiency should always be considered and investigated in elderly patients complaining of colicky or cramp-like abdominal pains, flatulence, abdominal distension and diarrhea. Stools are generally watery and acidic. These symptoms are usually associated with the ingestion of milk and resolve when milk is withdrawn. Preparations are now commercially available which can be added to milk, making its consumption possible for patients with lactase deficiency (Lact-Aid Liquid by SugarLow Co., Box 1100, Pleasantville, NJ 08232).

Previously, a number of different tests have been used to diagnose lactose-intolerance. Recently, though, researchers at the University of Tampere in Finland have devised a simple accurate strip test to diagnose lactose malabsorption. When dipped into a urine sample, a distinctly blue color indicates positive galactose. A pale greenish color or no color signals the absence of galactose in the urine, an indication of lactose malabsorption (8).

#### **FIBER**

Dietary fiber is a heterogenous mix of plant cell polysaccharides, pectins and lignins. Fiber increases stool mass and moisture and dilutes colonic contents. It also reduces gastrointestinal transit time and increases excretion of bile acids, neutral steriod, nitrogen, fat, minerals and electrolytes.

But not all fiber is the same. Bran and probably other cereal fibers, with small cells and lignified cell walls, is only 36% digested by gut flora. Bran increases fecal mass by absorbing moisture. Cabbage is 92% digested by gut flora. Some water-soluable fiber, such as oat bran (others would be pectin and

guar), lower low-density lipoprotein (LDL) levels in hypercholesteremic people, while wheat bran, rich in water-insoluable fibers, does not.

Epidemiological evidence suggests that diets high in fiber are associated with low levels of plasma lipids and a decreased risk of heart disease, but results from studies are not consistent (9). In general, cereal fiber has little effect on plasma lipids in humans, but fruit and vegetable fiber do potentially lower cholesterol levels.

Other studies have addressed the possible beneficial effects of fiber against cancer. It has been suggested that potent mutagens in human feces may be associated with cancer of the colon. Fiber, by speeding the

transit of bile acids and mutagens, may then act as a protective against colon cancer.

Abdominal pain, constipation and diarrhea are symptoms of diverticular disease and the irritable bowel syndrome, and excellent symptomatic relief has been reported for patients consuming high fiber diets, with or without unprocessed bran or fiber supplements.

Researchers have also credited high fiber diets with lower frequencies of hemorrhoids, inguinal hernia, hiatus hernia and leg varicosities (10). Sometimes, elderly who wish to eat fiber would like to know the fiber content, and Table IV provides some data on that. Table V addresses the sugar content of some fruits, which elderly often eat to

TABLE I

SODIUM AND CALORIC CONTENT OF SOME BEVERAGES

Soft Drinks	Sodium (mg)	Calories
Quinine (tonic) water	2	72
Perrier water	3	Ø
Schweppes ginger ale	16	88
Coca Cola	20	96
Mineral water	42	Ø
Canada Dry club soda	56	Ø
Hi-C orange drink	58	122
Juices		
Grapefruit juice	2	94
Pineapple juice	4	92
Cranberry juice cocktail	4	164
Orange juice (frozen)	6	123
Apple juice	6	116
Grape juice	8	167
Bird's Eye Orange Plus	11	133
V-8 juice	744	39
Soups		
Lipton Tomato Cup-O-Soup	652	1ø6
Campbell's chicken broth	784	40
Lipton Vegetable Cup-O-Soup	1,058	53
Campbell's chicken vegetable	1,115	72
Others		
Beer, light	10	46-90
Beer, regular	12	100
Wine, white domestic	4	198

provide fiber. There have been some reports that elderly on cimetidine or with previous gastric surgery, may develop phytobezoars (11), and in those patients a diet low in cellulose should be considered.

Table VI provides patient information which a pharmacist may wish to have ready for elderly patients with questions about fiber.



#### TABLE II

#### POTASSIUM IN MILK

#### Type

Whole milk, 3.7% fat	mg/L
Skim	635
Partially Skim, 2% non-fat	658
milk solids added	794

#### TABLE III

#### CAUSES OF ACQUIRED (SECONDARY) HYPOLACTASIA

Age (?) Gastroenteritis\* Celiac Disease Protein-Calorie\* Malnutrition Giardiasis\* Post-Surgical\* Partial gastrectomy Ileostomy

Small intestinal resection

Tropical Malabsorption Ulcerative Colitis\* Crohn's Disease Whipple's Disease

Cystic Fibrosis Lymphoid Hyperplasia

\* More frequently in elderly than younger patients?

#### TABLE IV

#### SOME FIBER-CONTAINING FOODS\*

Wheat bran	44.0	Special K cereal	5.5
All-Bran	26.7	Brown bread	5.1
Almonds	14.3	Bananas	3.4
Shredded wheat	12.3	Cabbage (boiled)	2.5
Cornflakes	11.0	Apples (peeled)	2.0
Peanuts	8.1	Oranges	2.0
Peas (uncooked, frozen)	7.8	Tomatoes (fresh)	1.5
Raisins	6.8	Potatoes (boiled)	1.0
Spinish	6.3		

<sup>\*</sup> Weight of dietary fiber per 100 g of food.

TABLE V

#### RELATIVE AMOUNTS OF SUGAR IN SOME FRUITS

	Total Sugar per 100 gm.	Sucrose %	Glucose %	Fructose %
Apples	11.0 grams	34	11	55
Blueberries	7.8	4	48	48
Cherries	8.0	6	53	41
Grapes	11.6	7	47	46
Melon	11.2	54	23	<b>2</b> 3
Peaches	8.9	78	10	12
Strawberries	5.0	20	40	40

#### TABLE VI

#### PATIENT INFORMATION ON FIBER

#### What does it do?

Fiber is a mixture of substances, most of which pass through the digestive system unchanged and unabsorbed. Fiber does several things in the digestive system.

- It softens the stools so that they are easily passed, thus preventing constipation.
- 2. It increases the bulk of the food residue passing through the intestine by acting like a sponge, retaining fluid as it goes along. This gives the bowel more soft matter to push along and means that it doesn't have to push as hard. This relieves the symptoms of disease such as diverticular disease of the colon.
- 3. It generally contains fewer calories and more bulk than an equivalent amount of low-fiber (refined) food, and requires more chewing. This helps you feel fuller and reduces you appetite for more fattening foods.
- 4. It reduces the amount of energy absorbed from food and also helps the energy



that is absorbed to be absorbed more slowly, which is healthier. Less energy absorbed means that high-fiber foods are less fattening than refined foods.

5. It increases the bacterial content of the bowel. Normal bacteria in the bowel grow better when you're on a high-fiber diet and it is now known that these bacteria are protective and possibly help in reducing the absorption of toxic substances from the bowel.

#### Why do we need fiber?

- 1. To prevent constipation.
- 2. To help prevent the symptom of diverticular disease.
- To reduce our chances of getting appendicitis, hiatus hernia and varicose veins.
- 4. To reduce our chances of getting gall-stones.
- 5. To help us slim as part of a calorie control diet.

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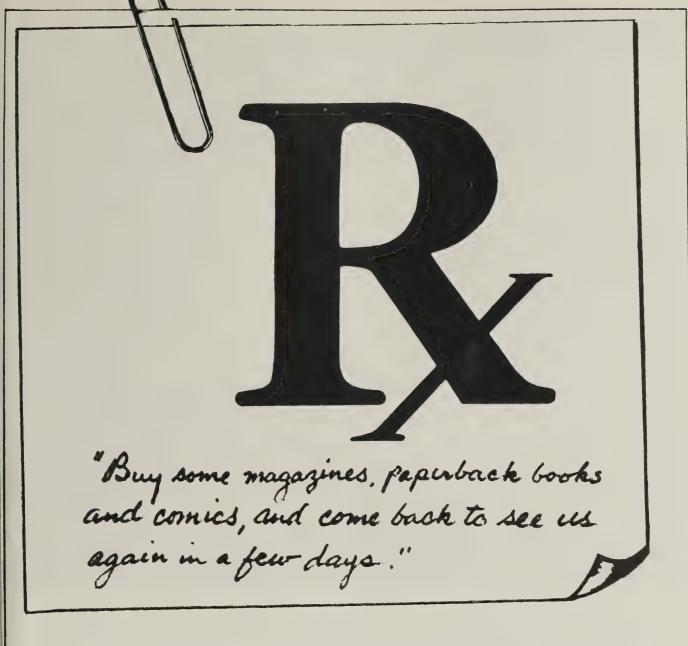
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Health Care Product News, March 1982 "Chart helps physicians record patients" skin growths and moles."

Florida Pharmacy Journal, July 1982

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The New York Times, August 17, 1982 "Skin cancer linked with fluorescent lighting" . . . Melanoma incidence more than doubled in past 30 years.

"The Overall Home Medical Testing Market",
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# Use Caution with Cancer Drugs

—Pharmacy personnel who handled cancer chemotherapeutic drugs had demonstrable mutagenicity in their urine, according to a recent study done at The University of Texas M.D. Anderson Hospital. Researchers there also found that these personnel could avoid uptake of such drugs by working in a vertical-flow biological-safety cabinet rather than in horizontal laminar-flow hoods. (Horizontal-flow hoods are the type most commonly used by hospital pharmacies.)

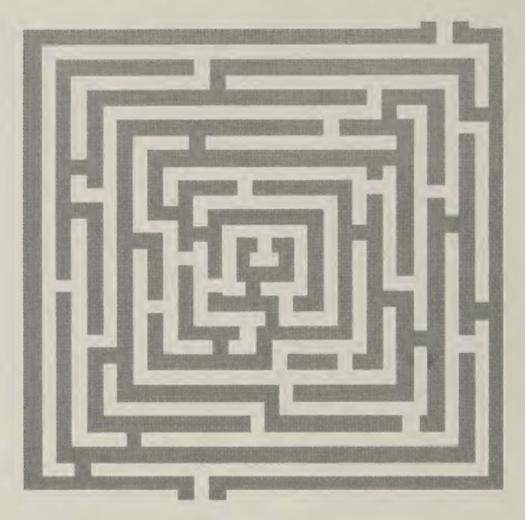
Results of this study, which was conducted by pharmacists Roger W. Anderson, William H. Puckett, Jr. and William J. Dana; environmental scientists Tot V. Nguyen and Jeffrey C. Theiss; and geneticist Thomas S. Matney, are published in the November issue of the *American Journal of Hospital Pharmacy*. The article includes the authors' recommendations for precautions that personnel should use when handling injectable antineoplastic drugs.

The study used a longitudinal design in which each subject served as his own control. Six pharmacy personnel whose jobs included preparation of i.v. admixtures containing antineoplastic drugs served as experimental subjects; three pharmacy administrators who did not handle such products served as controls. Urine was collected from all subjects during eight-day testing periods that began following duty-free weekends. Various intervention methods—gloves, masks, and vertical-flow biological-safety cabinets—were tested. The *Salmonella*/mammalian microsome mutagenicity test (Ames test) was used to check for mutagenicity in the subjects' urine.

All experimental subjects had mutagenicity in their urine at some point while preparing admixtures in horizontal laminar-flow hoods, but the patterns of mutagenicity were not consistent relative to time of exposure to the antineoplastic drugs. Control subjects did not have mutagenicity in their urine at any time. Experimental subjects continued to have mutagenicity in their urine when using gloves or respiratory masks while preparing admixtures. When work was performed in vertical-flow biological-safety cabinets, the subjects had no mutagenicity in the urine.

According to the authors, these results, combined with other published data, leave little choice for the prudent practitioner. "Our recommendation is that protective intervention methods must be followed by all persons handling (antineoplastic) agents," the authors conclude.

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Elwin Alpern (left), President of the Baltimore Metropolitan Pharmaceutical Association, presents the Honorary President's Award to Raymond Dalbke (right), District Sales Manager for Lederle Labs. The Banquet was held at the Blue Crest North in Baltimore.



Milton Sappe (left), President of the Maryland Pharmaceutical Association, presents the Pharmacist Helpmate Award to Denise Marinelli (right).

#### **BMPA** Banquet



Alpern (left) presents the Past President's Award to outgoing BMPA President Frank Marinelli (right). The Banquet was held March 13th after being postponed from February by a record breaking snow storm.



Alpern (left) receives the NARD Leadership Award from Martin Mintz, (right) who served as Banquet Chairman and Toastmaster for the affair.

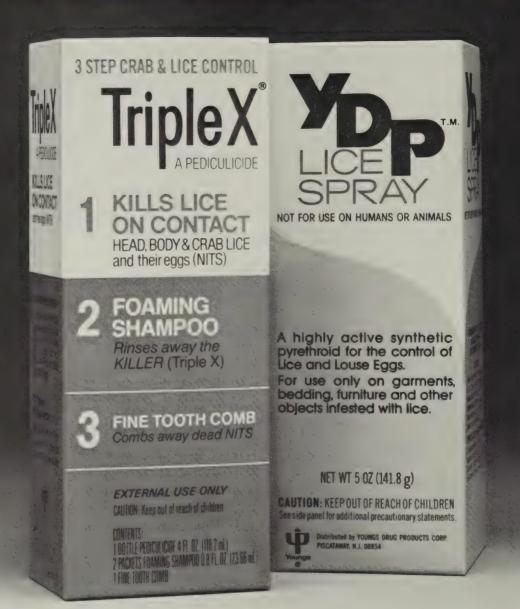
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Steven Cohen, President of the Maryland Society of Hospital Pharmacists, moderated the March 27th Continuing Education Coordinating Council's Seminar on "Arthritis".



Mary Betty Stevens, an Associate Professor of Medicine from Johns Hopkins Hospital, presented an overview of the disease state for the capacity crowd. The seminar also featured an exhibit program.



BMPA President Elwin Alpern (left) introduced Steven Farmer, Director of Pharmacy Affairs for Roche Labs at the BMPA meeting of March 10th on Industry/Pharmacy relations.

#### Carter Wins Award

The Drug Salesmen's Association of Pennsylvania is pleased to announce the selection of Mr. David C. Carter as the MAN OF THE YEAR. A special dinner will be held in his honor at our 75th Annual Convention and Outing on Friday, June 10, 1983. The outing will be held at the Brandywine Country Club in Wilmington, Delaware.

Mr. Carter, President of The Drug House Inc., Philadelphia, has been associated with that Company since 1967 when he accepted the position of Customer Relations Manager. Since that time he has progressed to Sales Manager, Vice President of Sales, Executive Vice President, and recently accepted the position as President. Dave stressed continuity of growth and expansion when discussing future goals. "We must continue to support our customers' needs, keep abreast of developments and changing market conditions, and provide service that will continue to meet the changing needs of our customers."

David has certainly provided an excellent example for many of us by rising from his humble beginnings as a stock boy to the rank of President by demonstrating great loyalty, dedication and ambition in every phase of his career. Please join us in honoring him. Tickets may be ordered by contacting Morris Abrams, 5555 Wissahickon Avenue, Philadelphia, PA 19144.

#### School Receives Scholarship Award

A \$250,000 matching grant for professional scholarships has been given to the Pharmacy School of the University of Maryland at Baltimore by Abe Plough, founder of Plough, Incorporated, now the Shering-Plough Corporation. The announcement of the award was made by Dr. William J. Kinnard, Jr., Pharmacy School dean, who noted that Mr. Plough has only recently started the program and has already given several million dollars to the nation's pharmacy schools.

The money will be matched over a ten-year period, and the first scholarship will be awarded for fall, 1984. As the endowment grows, the money will increase, so that at the end of the decade, the fund may be worth more than \$1.0 million.

Dr. Kinnard added that Mr. Plough's company is best known for over-the-counter drugs, including St. Joseph's Baby Aspirin. Also in Baltimore, the company owns radio stations WCAO and WXYV.



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#### **ABSTRACTS**

Excerpted from PHARMACEUTICAL TRENDS, published by the St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor and Leonard L. Naeger, Ph.D., Associate Editor

#### **BICIFADINE:**

A new class of analgesics, not having narcotic, antiinflammatory, or narcotic antagonistic activities, has been compared to a dose of 650 mg of aspirin in post-operative patients. The drug in doses of 150 mg compared well with the salicylate. Side-effects produced by bicifadine were considered minor and did not interfere with the course of the therapy. *J Clin Pharmacol*, Vol. 22, #4, p. 160, 1982.

#### **ACETAMINOPHEN TOXICITY:**

Overdoses of acetaminophen produce death subsequent to liver damage. The death generally occurs several days after ingestion of the analgesic. Antidotes such as methionine, cysteamine and N-acetyl cysteine (Mucomyst) work most effectively if administered within 10 hours of the ingestion. As an alternate procedure, eight patients were subjected to hemoperfusion using activated charcoal to dialyze against. Seven of the patients responded favorably thus suggesting that this procedure be considered when the ingestion has occurred more than 10 hours prior to initiation of therapy. Clin Toxicol, Vol. 18, #10, p. 1225, 1982.

#### PHENOBARBITAL TOXICITY:

Phenobarbital has a very long duration of action and thus overdoses may produce coma which lasts for extremely long periods of time. Patients are often given drugs to stimulate an alkaline urine or dopamine-induced diuresis as well as using hemoperfusion and hemodialysis. Another antidote seems to enhance recovery from coma when patients have overdosed with the anticonvulsant. Patients given a dose of activated charcoal via the nasogastric route recover more readily than those not receiving the adsorptive agent. Authors of this article suggest activated charcoal via the nasogastric route be considered for patients with this toxicological problem. J Am Med Assoc, Vol. 247, #17, p. 2400, 1982.

#### PHENYTOIN:

Patients receiving long-term phenytoin (Dilantin) therapy were noted to have elevated levels of high-density lipoproteins, the fats which are associated with a reduction in cardiovascular mortality. A prospective study will be designed to determine if this benefit can be produced at doses which do not cause the usual side-effects associated with phenytoin therapy. J Am Med Assoc, Vol. 247, 12, p. 1686, 1982.

#### **METHYLDOPA:**

The antihypertensive agent, methyldopa (Aldomet) is generally prescribed in divided daily doses. In order

to determine if a single daily dose might be as effective as multiple dosing, 27 patients were evaluated in a single-blind, prospective cross-over study. Results indicate that blood pressure control is equally realized by both regimens and that no serious side-effects were detected. Once daily therapy with methyldopa may be useful in patients where compliance is a problem. *Clin Ther*, Vol. 4, #5, p. 395, 1982.

#### INFANT PAIN:

Do infants perceive pain as adults do? Clinicians in Chicago have set up a unit which is said to be the first pediatric pain clinic in the nation. Some practitioners believe that chronic and intense pain is rare in children and virtually non-existent in infants and neonates. Members of this clinic team are searching for clues which might identify pain when present in this group. If suffering from painful stimuli, a child might not be as mobile as expected and thus may be classified as slow in developing. Much activity is expected from this new area of research. Am Med News, Vol. 25, #13, p. 3, 1982.

#### AMOXICILLIN:

For years we have been cautioned to use antibiotic therapy for from 7 to 10 days in order to insure against the development of resistant organisms which might reinfect a patient who has treated their condition for an insufficient period of time. Studies conducted in Great Britain suggest most pediatric ear infections (otitis media) can be cured with a three-day term of therapy, thus saving unnecessary antibiotic expense. The authors suggest that each patient be re-examined on about day 5 or 6 after initiation of therapy. (While this might save on antibiotic expense, it seems that paying for a second office visit would more than cancel any drug savings!) Br Med J, Vol. 284, #6322, p. 1078, 1982.

#### CIMETIDINE-LIDOCAINE INTERACTION:

Cimetidine (Tagamet) reduces hepatic blood flow and thus may enhance the activity of any drug which depends on rapid hepatic interaction to limit its toxicity. Cimetidine was administered to patients receiving lidocaine and it was noted to cause a 50% increase in the blood level of the antiarrhythmic agent. Since lidocaine undergoes extensive hepatic metabolism, the authors of this article suggest that these two drugs be used together cautiously in order to prevent lidocaine toxicity. *Ann Intern Med*, Vol. 96, #5, p. 592, 1982.

#### PLATELET ENZYME DEFICIENCIES AND MIGRAINE HEADACHE:

Patients with dietary migraine headache attacks ex-

perience their problem after ingesting foods containing tyramine, e.g. chocolate, cheeses, etc. Platelet studies conducted in these people indicate that they are deficient in phenolsulphotransferase, an endogenous enzyme with thus far no known physiological function or substrate. Patients with other types of migraine and controls had normal enzyme activity. Some yet unknown component of chocolate and cheese may be responsible for triggering this type of headache. *Lancet*, Vol. II, #8279, p. 983, 1982.

#### **RANITIDINE-CIMETIDINE COMPARISON:**

Ranitidine is an experimental histamine-2 antagonist which has been said to be less toxic than cimetidine (Tagamet). The manufacturer of ranitidine claims their product does not bind to androgen receptors and thus will not cause gynecomastia or impotence in males. They further suggest that it does not affect cytochrome P-450 mixed function oxidase systems in the liver and thus will not interfere with the metabolism of drugs such as propranolol, diazepam, warfarin, phenytoin, or other agents normally inactivated via this route. Ranitidine is said to cause no central nervous system effects in elderly patients who have reacted adversely to cimetidine. Further comparison of the new agent is being made to substantiate these early observations. FDC Rep, Vol. 44, #17, p. 6, 1982.

#### PIROXICAM:

Pfizer has introduced piroxicam (Feldene) to the market as their first entry into the NSAID market. The drug is said to be less irritating to the gastrointestinal tract and can be taken once daily. FDC Rep, Vol. 44, #15, p. 3, 1982.

#### ACETAMINOPHEN AND ETHANOL:

Acetaminophen (Tylenol) is metabolized by glucuronidation in the liver so the extent of this metabolic conversion was measured in the presence of ethanol in both normal and food-deprived animals. Under normal circumstances, ethanol seemed not to affect the metabolism of the analgesic, but food-deprived animals were noted to metabolize acetaminophen less readily. Although acetaminophen has a high therapeutic index, its toxicity might be more apparent in patients who substitute ethanol for food. Other agents such as chloramphenicol (Chloromycetin), disulfiram (Antabuse), fenoprofen (Nalfon), morphine, oxazepam (Serax), and trichlorethanol may also become more potent under similar circumstances. *Drug Metab Dispos*, Vol. 10, #2, p. 189, 1982.

#### DYSBARISM:

Decompression sickness requires hyperbaric chambers to reverse the toxicity associated with this condition. Three million recreational divers are in this country today and 200,000 new divers are certified each year. Recompression protocols have been lengthened to insure recovery from this condition. *J Am Med Assoc*, Vol. 247, #18, p. 2555, 1982.

#### **ZOMEPIRAC:**

A recently introduced non-narcotic analgesic seems to be more potent than aspirin in treating chronic cancer pain, but its increased effectiveness was seen primarily in patients who had no previous exposure to potent analgesics. Zomepirac seems to be well tolerated by most patients and did not produce the side-effects associated with salicylate therapy in patients taking drugs such as warfarin (Coumadin). *Drugs*, Vol. 23, #4, p. 250, 1982.

#### **CLOSTRIDIUM DIFFICILI:**

The anaerobic organism Clostridium difficili has been associated with antibiotic-induced colitis and more recently with chronic osteomyelitis. Penicillin was initially effective against the bone condition, but resistance has rapidly developed. Therapy with metronidazole (Flagyl) was found to be effective in eradicating the organism. *Br Med J*, Vol. 284, #6324, p. 1217, 1982.

#### **DIFLUNISAL:**

Another NSAID has been compared to aspirin and placebo to determine its relative analgesic potency. Diflunisal was given to patients experiencing post-operative dental pain and was found to be more effective than both aspirin or the placebo treatment. Side-effects were minimal. *J Clin Pharmacol*, Vol. 22, #2 and 3, p. 89, 1982.

#### **ANTIARRHYTHMIC AGENTS:**

Patients who experience a myocardial infarction often develop cardiac arrhythmias which can be life threatening. Since it is difficult to predict who will develop these problems, physicians have suggested that antiarrhythmic therapy with lidocaine be used prophylactically to prevent arrhythmias in these patients. Generally it is used for 48 hours and then oral agents are substituted if necessary. *J Am Med Assoc*, Vol. 247, #14, p. 2019, 1982.

#### **CARDIAC FUNCTION:**

After a patient experiences a myocardial infarction the serum activity of creatinine kinase MB isoenzyme increases thus allowing clinicians an indicator to diagnose this condition. Electrocardiographic alterations are also seen after these attacks. Investigators have studied marathon runners before and after strenuous exercise and it has been shown that both serum values of the isoenzyme and electrocardiographic changes similar to those seen after a myocardial infarction occur in absence of the attack upon completion of strenuous exercise. Individuals who demonstrate signs of a myocardial infarction while competing in these events might be diagnosed incorrectly if the two major signs of the occurrence are used. A more specific test, such as Technetium-99m pyrophosphate scintigraphy or alpha-1-acid glycoprotein measurements, should be used in distinguishing between patients who have or have not had a myocardial infarction during or immediately after strenuous exercise. Br Med J, Vol. 285, #6354, p. 1523, 1982.

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#### **Program At A Glance**



**SUNDAY** June 26

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ming and Ice Skating

9:00 p.m. Welcome Cocktail Party (Joint with Delaware and D.C.)

**MONDAY** June 27

9:00 a.m. "Patient Education in Action" (Joint C.E. Program) See the enclosed flyer. LAMPA Brunch and Fashion Show. (Delaware afternoon C.E. Program open

to MPhA members) (Joint Sports competition in Tennis, Golf and Volleyball)

6:30 p.m. Crabfeast and Chicken at Berlin Fire Hall-Square Dance (Joint with Delaware and D.C.)

**TUESDAY** June 28

9:00 a.m. Open General Session House of Delegates, First Session, Officer's Reports, Special Address by Joseph Valentino, Legal Counsel to the USP. LAMPA Board Meeting and special Presentation on Communications by Cookie Cogan,

D.Ed. 9:00 p.m. Cocktail Party

WEDNESDAY June 29

9:00 a.m. House of Delegates Second Session, Election of nominees to Board of

Pharmacy and MPhA Board of Trustees with installation.

6:00 p.m. Cocktail Party—Annual MPhA Banquet Awards and prizes.

**THURSDAY** June 30

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- \* Centennial Apothecary Jars with the Association's historic banner displayed is available for only \$12.00 each which includes handling. Quantity discounts are available and it makes an excellent gift.



Randy Wampler is a graduating Pharmacy Student from the Medical College of Virginia. He spent four weeks in the MPhA Association office as part of a special studies rotation to learn about the career specialty of association management. As part of his experience with the Association, he completed the analysis and article found on page four of this issue.

#### No more kicks

"T's and Blues" is what the "street pharmacist" terms what has become a popular addendum to his "formulary." Drug abusers have been obtaining Talwin tablets (pentazocine) and PBZ tablets (tripelennamine), crushing them together, dissolving them in water, and injecting the mixture intravenously to obtain a "high" similar to that of morphine.

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#### **LETTERS**



Dear Mr. Banta:

Knowing of your personal concern regarding the impact of federal regulation on small businesses, Vice President Bush has asked me to provide you with the enclosed fact sheet.

As you will note, the Office of Management and Budget (OMB) published today a final rule that sets forth the procedures for implementing the Paperwork Reduction Act of 1980. Of particular importance to small businesses are the general guidelines which agencies must meet unless they can show that an exemption is necessary to meet statutory requirements or other substantial need. The guidelines provide that agencies may not: (1) require the public to file any report more than four times a year; (2) require a written response in less than 30 days; (3) require more than an original and two copies; (4) require that records be maintained for more than three years (except for health, medical, and tax records); and (5) require information to be submitted in a form other than that in which it is normally maintained. The guidelines also require agencies to give special consideration to the burden imposed on small businesses.

On behalf of the Presidential Task Force on Regulatory Relief, Vice President Bush has asked me to thank you again for contacting our office. He does appreciate knowing the concerns of small businesses and is especially grateful to those who participated in this regulatory review process.

Sincerely,
C. Boyden Gray
Counsel to the Vice President

#### calendar



May 3 (Tues)—Alumni Association Annual Meeting, Election of Officers School of Pharmacy, 8:30PM

May 11 (Wed)—Coalition of Long Term Care Providers Banquet

May 11 (Wed)—AZO dinner meeting, Suburban House

May 18 (Wed)—Alumni Association Graduation Banquet, Eudowood Plaza

May 22 (Sun)—CECC Seminar, Stress Management—Good Sam. Hospital

June 17–19—MSHP Annual Seminar, Atlantic City June 26–30—MPhA CONVENTION IN SUNNY OCEAN CITY BY THE SEA

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#### THE MARYLAND PHARMACIST

Official Journal of The Maryland Pharmaceutical Association

June, 1983 VOL. 59 No. 6



Diabetes Mellitus: History and Therapy

Lilly Digest Results

Vacationers' Compliance

-Connie Recupero

#### THE MARYLAND PHARMACIST

650 WEST LOMBARD STREET BALTIMORE MARYLAND 21201 TELEPHONE 301/727-0746

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It worries me that I preceive the average age of the independent pharmacy owner to be growing older with no new infusion of younger blood coming into our ranks. It is not so much that we are getting older, because there are older young men, just as there younger old men, but rather that there is no great desire of our younger graduates to become owners. I use the gender "men" because for many years most independent pharmacy owners were men and the female graduates went into the hospital settings. This, thank goodness, is gradually changing for the better. Many of the young ladies I have met have very strong convictions about the practice of pharmacy and where it should be heading and I for one would like to see more of them in private practice settings. It may be that the graduates and students need more and better role models so that they might recognize and realize the rewarding position independent pharmacy holds in the community. No one has ever said it is easy to open a new store or to buy one from an existing owner. The hours have always been long and the work hard. Store ownership is not for everyone, especially a husband and wife who do not have the same goals. I am not even sure that the same work ethic prevails since so many see their work life as a forty hour week, regular vacations, few responsibilities and maybe just playing the string out to retirement. Yet, for the few who dare to adventure and wish to master of their own fate, there is nothing like being your own boss.

PRESIDENT

## DIABETES MELLITUS: HISTORY AND THERAPY

Descriptions of diabetes go back to the earliest human writing, suggesting the disease predates recorded history.

The oldest written record of diabetic symptoms dates back about 3,500 years ago to an Egyptian papyrus that outlined different treatments for frequent urination. In 400 B.C., Sushrutha, an Indian physician, noted the presence of sugar in the urine of diabetics—"honey urine," as he put it. "Mellitus" in "diabetes mellitus" comes from the Latin word for honey.

Both Chinese and Japanese doctors wrote of a disease suggesting diabetes almost 2,000 years ago. Avicenna, a famous Arab physician, gave a comprehensive—and remarkably accurate—account of diabetes, including its complications, about 1,000 years ago. A hundred years later, Moses Maimonides, the Spanish-Jewish physician and philosopher, reported seeing a few patients a year with symptoms now ascribed to diabetes.

Unfortunately, up until the great medical breakthroughs of the last half-century, most diabetic patients who could not produce insulin had drastically shortened life spans—no more than five years after onset of the disease.

Today, properly treated diabetic patients are no longer in *immediate* danger for their lives, although complications of the disease often *eventually* lead to heart attack, stroke, kidney disease, blindness or gangrene and still claim an alarming number of lives. Every year in the U.S., more than 34,000 deaths are attributed to diabetes. Over 250,000 are probably related to diabetes.

About 10 million Americans—approximately 5 percent of the population—have diabetes. Because people live longer now and many develop diabetes in later life, the overall incidence of the disease significantly increases every year. One of five Americans living to 70 develops diabetes.

About 10 percent of diabetics have the type I form of the disease, formerly called juvenile diabetes and now called insulin-dependent diabetes. Type I diabetes most often begins in childhood and mandates that its victims receive daily insulin injections to stay alive. Onset is generally sudden, and rapid treatment is crucial. Symptoms include frequent urination, excessive thirst, weight loss, fatigue and constant hunger.

Most people who develop diabetes have the type II form, formerly called adult-onset diabetes and now called non-insulin dependent diabetes. It usually begins after the age of 40. Onset is gradual and symptoms can be the same as for type I diabetes, including slow healing

of cuts and scratches, vision disturbances and itching. Not everyone with diabetes, however, has these symptoms. A doctor can use various tests for sugar in the blood and urine to diagnose diabetes.

Whatever the type or severity of their disease, all individuals with diabetes have one thing in common: They are unable to use their natural body sugar—glucose—to supply the necessary energy for normal activity. Their glucose, instead of feeding the body's cells, builds up in the blood until it spills over into the urine.

With glucose unavailable to supply energy needs, the body begins to cannibalize itself, burning up fats and proteins. The absence or ineffectiveness of insulin, a hormone that regulates glucose, is the key to this malfunctioning.

The isolation and extraction of insulin from steer pancreas by Dr. Frederick G. Banting and his assistant, Charles H. Best, was perhaps the most dramatic event in the history of diabetes. On July 30, 1921, insulin was injected into a human being for the first time. The patient was 11-year-old Leonard Thompson, emaciated and near death. The insulin injections lowered his blood sugar, substantially improving his health and enabling him to live to maturity.

Insulin is still the mainstay of treatment for many diabetics, allowing them to keep their blood sugar at normal levels.

But insulin was not—and is not—necessary or ideal for all diabetics. For one thing, injecting too much can cause low blood sugar or insulin shock (hypoglycemic reaction). If not enough insulin is injected, the blood sugar gets extremely high, the body begins to cannibalize itself, and a diabetic coma (ketoacidosis) can result. Repeated injections are difficult, especially for older patients and those with other infirmities, such as poor vision, blindness or arthritis. Insulin extracts from animals sometimes cause allergic reactions in humans. And insulin does not eliminate diabetic complications.

Moreover, many of the people with type II diabetes have normal or even unusually high insulin levels, but are resistant to the action of their insulin.

There is, however, an alternative to insulin therapy for these people. In 1948, a remarkable discovery was made by R. Jonbon and A.L. Loubatieres in France. In testing sulfa drugs for typhoid fever, they found a marked lowering of blood sugar in laboratory animals. Further research led to the development of tablets for lowering blood sugar without insulin. These tablets, called sulfonylureas, initially increase the amount of insulin produced by the pancreas. As the body uses this insulin to

lower blood sugar levels, the pancreas secretes correspondingly less insulin. Over a period of months, the body's cells become more sensitive to insulin. As sensitivity increases, insulin levels are returned to normal.

While these drugs are not useful for the smaller group of insulin-dependent diabetics, they are helpful for many individuals with non-insulin dependent diabetes. For many patients who develop type II diabetes, oral medication, combined with a strict diet and regular exercise, often precludes the need for insulin.

Speculations about the specific causes of diabetes go far back. Even with the advent of modern biochemistry and a more precise understanding of the disease, the underlying causes are not known. No doubt, a number of interrelated factors are involved, including heredity, individual metabolism, associated disease, diet and other social and environmental conditions.

While anyone can become diabetic, certain people have a higher risk, including the overweight, those with diabetes in the family, those over 40 and women. Diabetes appears to increase in societies where people exercise minimally and eat a diet rich in fats and refined carbohydrates.

The major danger at this time is that people do not always seek medical assistance when symptoms of diabetes appear. It is estimated that two of every five diabetic individuals either do not know they have diabetes or are ignoring it—with possibly dire results.

This is especially unfortunate, because current medical therapy can control the disease, and many physicians believe that patients who strictly adhere to their therapy may be able to prevent, postpone and/or lessen the severity of complications.



#### Pharmacy School Offers M.S. Degree in Community Pharmacy

A master of science degree with a concentration in community pharmacy management, the first of its kind in the United States, is one of three specialities in a new graduate program in Pharmacy Practice and Administrative Science offered for fall, 1983, by the School of Pharmacy of the University of Maryland at Baltimore. The others are an M.S. in institutional pharmacy, with a thesis, and an M.S. and Ph.D. in pharmacy administration.

Announcement of the program was made by its director Dr. David A. Knapp, associate dean of the Pharmacy School, who says that faculty will include Drs. Peter P. Lamy and Dean E. Leavitt, professors; Drs. Robert S. Beardsley, Francis B. Palumbo and Stuart M. Speedie, associate professors; and Dr. Donald O. Fedder, assistant professor. Dr. Alan B. McKay, a computer and management specialist from Mercer University in Atlanta, will join the group on July 1, making it the largest faculty in the nation for a graduate pharmacy program.

Dr. Knapp explains that the pharmacy administration track will train "badly needed" researchers in the social, behavioral and economic areas of pharmacy and medication, while the community pharmacy concentration will train students to administer pharmacy programs in a variety of settings. The existing institutional pharmacy concentration under Dr. Lamy's direction will continue to offer high level programs producing administrators for hospitals and other institutions.

All applicants for the program must have a professional degree in pharmacy. Other requirements vary and registration is limited. For information, call 301-528-7650 or write the School of Pharmacy, University of Maryland at Baltimore, 20 North Pine Street, Baltimore, Maryland 21201.

#### calendar



June 17–19—MSHP Annual Seminar, Atlantic City June 26–30—MPhA CONVENTION IN SUNNY OCEAN CITY BY THE SEA

SEPT 19-23-NARD Convention, Las Vegas

JUNE, 1983

# The APhA Task Force on Education

by Peter P. Lamy, Ph.D.

More and more pharmacists are practicing as providers of services, and not just dispensers of drugs. The chairman of the A. Ph.A. Board of Trustees, Dr. James T. Doluisio, in his address at Las Vegas stressed that "we have achieved significant upward professional mobility. . . . (but) more importantly, we have enormous potential for further growth."

Indeed, Pharmacy has become and continues to be a dynamic and rapidly changing practice. New demands, new concepts, and new opportunities arise. For example, the APP Section on Clinical Practice is pursuing such issues as prescribing by pharmacists, therapeutic equivalence, and reimbursement for nondispensing clinical activities.

The idea that pharmacists should be able to prescribe is, of course, not new, but it finds more and more attention. Just recently, the Washington State Board of Pharmacy approved regulations that permit pharmacist prescribing under written guidelines or protocols approved by a physician.

While generic drug substitution (drug product selection) laws have generally failed to produce the expected savings, there has now been a determined effort to give pharmacists the independent authority to select and dispense alternate drug entities (therapeutic alternates) from within the same general pharmacologic and therapeutic classification. At Las Vegas, there were many proponents speaking for the pharmacist's right to select and dispense drug products containing the same therapeutic moiety but differing in salt, ester, or comparable physical/chemical form or differing in dosage form.

Yet other challenges remain. The much vaunted "information explosion" is here, and if Pharmacy is to meet its role as an "information system" it needs to learn new technologies and their applications. On the horizon hovers the Comtrex experiment, journals which are totally computerized and which will present professional and scientific contribution within six to eight weeks. Anyone with access to a mini- or microcomputer can obtain this information instantly.

These, then, are some of the developments which promise to have the "enormous potential for further

growth" that Dr. Doluisio sees for Pharmacy in the coming decade.

But there are problems.

Many pharmacists may not be ready to confront and deal with the new demands and opportunities. For example, a recent study suggested that almost one-third of pharmacists surveyed felt that they had inadequate skills or knowledge for geriatric practice, a probably the fastest-growing practice area of the 1980's. Ways must be found to make the necessary skills and knowledge available to them. The future of many health programs, and funding for them, appears uncertain. So is the future of many practice settings.

Our colleagues in institutional pharmacy must deal with cost containment measures, justification of services, attempts by purchasing agents to reassert control over the purchasing of drugs and other therapeutic agents, re-justification of long-established systems such as unit dose, and questioning of the pharmacist's role in education and research.

Students, impatient to "get on" with the new Pharmacy would like to bury the "old," and view such Pharmacy skills as compounding as unnecessary, even though these skills may well be most necessary in the preparation of individualized dosage forms. Practitioners worry about an oversupply of pharmacists and thirdparty payments. Schools of Pharmacy are faced with students who have completed an educational cycle woefully inadequate not only in mathematics and science, but also in teaching of the ability to write and learn. Too many textbooks and lectures have stressed the student's ability to memorize and learn facts and to repeat them on demand. What is needed, though, is an ability to apply knowledge to problems, to anticipate problems and ameliorate their impact if they cannot be prevented. What students must learn is the ability to gain knowledge of new facts independently, in settings other than structured educational systems, and to evaluate and apply them.

The "entry-level" pharmacist must be able to meet new and difficult practice demands, and education must be ready to supply the necessary knowledge and skills, in ways that are possibly not yet even envisioned. Thirty-

Dr. Lamy is Professor and Director, the Center for the Study of Pharmacy and Therapeutics for the Elderly and Chairman, Department of Pharmacy Practice and Administrative Science, School of Pharmacy, University of Maryland at Baltimore.

<sup>&</sup>lt;sup>a</sup> C. C. Pratt, W. Simonson and S. Lloyd, "Pharmacists' perception of major difficulties in geriatric practice," *The Gerontologist*, 22 (3), 288, 1982

four years ago, similar questions were raised, similar answers were needed. The American Pharmaceutical Association then sponsored the Elliott report, which ultimately recommended a universal six-year Pharm.D. degree and a very specific curriculum to accomplish that. Now, based on a resolution adopted at the Annual Meeting in St. Louis, the A. Ph.A. Board of Trustees has established a Task Force on Pharmacy Education.<sup>b</sup>

A major effort of the Task Force will be the consideration of the "nature and title of the professional degree awarded to pharmacy graduates for initial practice." Other topics to be discussed are the content and length of the pharmacy curriculum leading to the entry degree, the type of training needed to advance the pharmacist beyond the entry level, and current and future needs for pharmacy personnel.

Academic credit for continuing education courses and certificate programs for distinctive pharmacy services are topics that practitioners would like the Task Force to address.

All of us in Pharmacy, practitioners, schools, organizations, and industry must participate. It will not, be enough to suggest "what" to teach and for how long, but consideration must be given to the "how" of teaching, particularly in view of the increasing demands for clinical skills and in view of shrinking budgets. One thing is certain, though: Pharmacy schools must not educate and train a generation of new pharmacists unable to participate in the coming technologic age, where the language might well be that of the computer. While plenty of nostalgia persists for the "good old days," those concerned with the task of defining pharmacy education of the future must decide whether to seek a new formula or simply to reinvent the wheel.

<sup>b</sup> Dr. John C. Weaver, Chairman; Dr. William L. Blockstein, Staff Director

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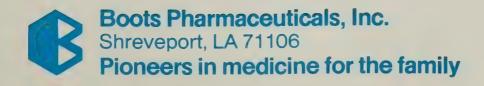
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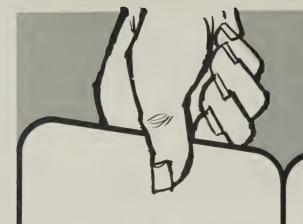
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#### Community

This year's preliminary *Lilly Digest* report, based on the 1982 operating statistics of 904 independent community pharmacies, indicates that a higher cost of goods sold was not offset by a lower total expense figure and resulted in a decline in net profit before taxes. When the income and expense statement items are compared with *Lilly Digest* figures for 1981, they show that . . .

Total sales reached a new high of \$520,261, an \$81,128 increase over 1981 sales. This was the first year sales surpassed the half-million dollar level. Total sales grew a record 18.5% in 1982, well above the average annual growth rate of 10.1% reported over the past decade. Prescription sales showed a 16.8% gain over the previous year's figure but were outpaced by the 20.5% advance in other sales. Total prescription revenue again accounted for over half of the independent community pharmacy's volume but declined from 54.6 to 53.8% of total sales.

The cost of goods sold rose 0.7% to 66.4% of sales, which caused gross margin to decline to 33.6 from 34.3% recorded in 1981. Total expenses decreased to a new low of 30.7% of sales (down from 31.1% in 1981). This reduction was the collective result of

manager's salary and rent more than offsetting the increase in miscellaneous operating costs. The combined effect of these changes, however, was not sufficient to compensate for the decline in gross margin, and net profit before taxes dropped to 2.9% of sales.

Although total expenses fell as a percent of sales, they did rise in terms of dollars (up almost \$23,000, or 16.7%, from the 1981 figure). The average proprietor's salary also was higher in dollars (up about \$2,400) but decreased as a percent of sales from 6.4 to 5.8%. Employees' wages also rose in dollar amounts but remained unchanged as a percent of total sales. Rent declined slightly from 2.5 to 2.4% of sales; however, average rental expense advanced almost \$1,700, a 15.4% gain over the 1981 figure. Miscellaneous operating costs went up about \$10,000 or an increase of 20.9%, which resulted in these costs taking a larger share of the sales dollar—going from 10.7 to 11.0% of sales in 1982. Dollarwise, net profit before taxes rose almost \$1,300—up 9.2% from the previous year. However, net profit, at 2.9% of sales, is the lowest recorded in *Digest* history. Total income (proprietor's salary plus net profit before

#### Hospital

Selected operating data received from 2093 hospital pharmacies in the United States were tabulated to reflect a composite profile of the "average" hospital pharmacy for 1982. Because this hypothetical pharmacy represents a broad range of information, the figures may be too general to use for direct comparison. However, trends can be determined by comparing data with similar figures from the 1981 *Survey* of operations published in August, 1982.

The data in Table 1 show bed capacity for the average hospital at 244 in 1982—a 7.8 percent decline from the previous year. This reduction in bed size may be explained, in part, by the distribution of the overall sample for 1982, which was skewed somewhat toward smaller-sized hospitals when compared with the hospitals reporting 1981 data. Census declined from 73 to 71 percent during 1982. Admissions were also lower in 1982—down 7.8 percent—and resulted in a slightly shorter length of patient stay (7.3 days) than that of the previous year. Again, the largest segment of reporting hospitals was the private (nonprofit) institution.

The number of hours the central pharmacy was open as well as the hours worked by pharmacists and support personnel rose slightly during the reporting period, whereas technician hours worked declined slightly. It is worthy to note that the two-year fluctuation in pharmacist, technician, and support personnel hours is minimal. Overall, the total hours worked per week by the hospital pharmacy staff remained virtually unchanged in 1982 as compared with the figure for the previous year. The hours of pharmacist time required for each hour the central pharmacy was open during 1982 were also unchanged at 2.9 hours. However, the ratio of technician hours worked to hours open declined from 2.8 to 2.6 in 1982.

The dollar values reported for inventory and purchases were higher during 1982 (up 1.6 percent and 9.2 percent respectively). The estimated turnover rate showed another increase, from 6.2 to 6.6 times. Interestingly, if the inventory turnover rate had remained at 6.2 times during 1982, inventory would have been about \$8000 higher, up 8.8 percent from 1981. Also noteworthy is that hospital pharmacy managers have improved their turnover rate one full turn since 1979—from 5.6 to 6.6 in 1982. These data indicate that managers of hospital pharmacy operations are continuing to exercise efficient control over inventory investment.

Comparisons between data representing two or more

982 Results \$ \$ \$ \$ \$

taxes) improved in dollars, up 8.8%, but decreased as a percent of sales (from 9.6 to 8.7%).

Prescription and merchandise inventory required more dollars in 1982; however, both dropped percentagewise (from 11.2 to 10.8% and from 21.0 to 20.5% of sales respectively). The prescription department's sales productivity moved up to \$9.24 per stock dollar (3.6% higher), whereas other merchandise productivity rose to \$4.88 (up 2.5%).

The share of new prescriptions increased by 613 to 48.9% of total prescriptions dispensed (up 4.6% from the previous year's level). Renewed prescriptions were higher by 481 (a 3.4% growth) than the 1981 figure and accounted for 51.1% of total prescriptions dispensed. As a result, total prescriptions continued a two-year growth trend, with an increase of 1,094 prescriptions dispensed. At 28,319 prescriptions dispensed during 1981 (up 4%), a new high was established, and the 28,000 level was reached for the first time in *Digest* history. The average prescription charge advanced to \$9.88 during 1982, an increase of \$1.08 (12.3%) over the 1981 figure of \$8.80.

The size of the average independent community pharmacy rose from 2,402 to 2,611 square feet of merchandise selling space during 1982. Sales productivity per square foot of floor area advanced \$15.58 during 1982 (up to \$196.82 from \$181.24 the previous year) and represents an 8.6% increase.

The following table summarizes the preliminary Lilly Digest report of the 1982 operating figures for 904 independent community pharmacies and compares these with the 1981 Lilly Digest averages from 1,750 pharmacies. The annual Lilly Digest will be completed and distributed in September of this year.



years' operations may be more accurately expressed in terms of patient days. During 1982, inventory equaled \$1.76 per patient day, a 12.8 percent increase over the prior year. Purchases were \$11.67 per patient day, a rise of 20.9 percent. Because these data do not account separately for inflation, it is impossible to measure its impact on inventory and purchases statistics. Therefore, the amounts shown do not necessarily reflect greater usage of drugs and related items by hospital patients.

Services offered by over 50 percent of hospital pharmacies that submitted data to the *Survey* remained unchanged from the previous year. Drug information services exhibited the largest growth rate during the two-year period, with 66.4 percent offering this service in 1982 as compared with 64 percent in 1981. This suggests that clinical services among reporting hospital pharmacists are continuing to expand.

A comparison of selected operating statistics over the seven-year history of the *Lilly Hospital Pharmacy Survey* shows the following trends:

—Pharmacy hours open rose from 74 to 95 (an increase of 28.4 percent or just over 4 percent per year).

- —Pharmacist hours worked per week increased 80.9 percent (from 152 to 275) or over 11 percent per year.
- —Technician hours worked per week varied but increased overall from 129 to 252 (a 95.3 percent advance or over 13 percent per year).
- —Inventory investment rose 61.9 percent, an annual growth rate of 8.8 percent for the seven-year period. In terms of patient days, the increase was 79.6 percent at an annual rate of 11.4 percent.
- —Purchases grew 126.8 percent during this time span, with an annual growth rate of just over 18 percent. In terms of patient days, the increase was 151 percent, which reflects an annual rate of 21.6 percent.
- —Purchases grew 126.8 percent during this time span, with an annual growth rate of just over 18 percent. In terms of patient days, the increase was 151 percent, which reflects an annual rate of 21.6 percent.

The 1983 edition of the *Lilly Hospital Pharmacy Survey* will be distributed in August of this year.

JUNE, 1983

Averages per Pharmacy	1982 (904 Pharmacies)	1981 (1,750 Pharmacies)	Amount and Percent of Change	
Sales				
Prescription	\$279,800— 53.8%	\$239,561— 54.6%	+ \$40,239—16.8%	
Other	240,461— 46.2%	199,572— 45.4%	+ \$40,889—20.5%	
Total	\$520,261—100.0%	\$439,133—100.0%	+ \$81,128—18.5%	
Cost of goods sold	345,467— 66.4%	288,421— 65.7%	+ \$57,046—19.8%	
Gross margin	\$174,794— 33.6%	\$150,712—34.3%	+ \$24,082—16.0%	
Expenses				
Proprietor's or manager's salary	\$ 30,381— 5.8%	\$ 27,983— 6.4%	+\$ 2,398— 8.6%	
Employees' wages	59,522— 11.5%	50,689— 11.5%	+\$ 8,833—17.4%	
Rent	12,562— 2.4%	10,886— 2.5%	+\$ 1,676—15.4%	
Miscellaneous operating costs	57,064— 11.0%	47,181— 10.7%	+\$ 9,883—20.9%	
Total expenses	\$159,529— 30.7%	\$136,739— 31.1%	+ \$22,790—16.7%	
Net profit (before taxes)	\$ 15,265— 2.9%	\$ 13.973— 3.2%	+\$ 1,292— 9.2%	
Total income	\$ 45,646— 8.7%	\$ 41,956— 9.6%	+\$ 3,690— 8.8%	
Value of inventory at cost and as				
a percent of sales				
Prescription	\$ 30,282— 10.8%	\$ 26,854— 11.2%	+\$ 3,428—12.8%	
Other	49,221— 20.5%	41,914— 21.0%	+\$ 7,307—17.4%	
Total	\$ 79,503— 15.3%	\$ 68,768— 15.7%	+\$10,735—15.6%	
Annual turnover rate of inventory	4.5 times	4.3 times		
Number prescriptions dispensed				
New	13,852— 48.9%	13,239— 48.6%	+ 613— 4.6%	
Renewed	14,467— 51.1%	13,986— 51.4%	+ 481— 3.4%	
Total	28,319—100.0%	27,225—100.0%	+ 1,094— 4.0%	
Average prescription charge	\$ 9.88	\$ 8.80	+\$ 1.08—12.3%	
Size of floor area	2,611 square feet	2,402 square feet		
Sales per square foot	\$196.82	\$181.24	+\$ 15.58— 8.6%	
Pharmacy hours open	62	62	Unchanged	

Average Hospital Pharmacy Preliminary Report				
	1982 (2093 hospitals)	1981 (1940 hospitals)	Percent of Change	
Bed capacity	Private (nonprofit) General	263 Private (nonprofit) General 73%	- 7.8%	
Admissions.  Length of patient stay.  Hours central pharmacy	8639	9311 7.5 days	- 7.8%	
open/week	275 (6.8 F.T.E.) 252 (6.3 F.T.E.) 116 (2.9 F.T.E.) \$111,161	93 274 (6.8 F.T.E.) 257 (6.4 F.T.E.) 113 (2.8 F.T.E.) \$109,443 \$ 1.56/Patient day \$ 416/Bed \$ 570/Occupied bed \$11.75/Admission \$676,088 \$ 9.65/Patient day	+ 9.6% + 12.6% + 9.5% + 9.2%	
\$ 3025/Bed \$ 4261/Occupied bed \$85.42/Admission Inventory turnover rate Floor area (central pharmacy) Services offered by over 50% of pha Monitoring patient profiles Monitoring drug interactions Providing drug information services	1590 sq ft	\$ 2571/Bed \$ 3521/Occupied bed \$72.61/Admission 6.2 times 1659 sq ft Monitoring patient prof Monitoring drug interact Providing drug informat services	+ 17.6% iles ctions	



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JUNE, 1983

## Consumers Willing to Pay Pharmacists for Clinical Services

A significant proportion of the American public is now willing to pay pharmacists for clinical services, including private consultation, medication monitoring, and house calls, according to preliminary results from the first national survey undertaken to assess consumer attitudes on pharmacists' clinical services.

The preliminary findings from the national cross-sectional telephone survey were presented today by John M. Boyle, PhD, vice president for Washington operations, Louis Harris and Associates, Inc., at the American Pharmaceutical Association's Annual Meeting in New Orleans.

APhA's Academy of Pharmacy Practice Section on Clinical Practice commissioned the nationally recognized pollsters, Louis Harris and Associates, Inc. to conduct the survey. Survey participants were asked five questions on their feelings about reimbursing pharmacists for clinical services.

Speaking before the Section on Clinical Pharmacy, Boyle revealed that 57% of the 1,254 respondents said they would be willing to pay their pharmacist for not filling a prescription that the pharmacist felt was inappropriate for them.

Thirty-nine percent said they would be willing to pay a pharmacist to keep up-to-date records of all their medications, to consult with their physicians, and to monitor their medical conditions, including taking their blood pressure if necessary before dispensing each refilled prescription. When asked how much they would pay for these services, 32% of all respondents said they would pay more than \$5.00, and 12% would pay \$20.00 or more.

One of the most interesting findings of the survey was that respondents were evenly split on whether they would consult a pharmacist or physician about treatment of minor problems such as a cold, skin rash, poison ivy, constipation, diarrhea, or acne; 39% were willing to pay the pharmacist a consultation fee of \$10.00 for advice on treating these complaints while an equal percentage said they were willing to pay \$35.00 to a physician for this information.

Thirty-one percent of the respondents indicated a willingness to pay for a private consultation with the pharmacist to discuss their prescription medications; 20% of all respondents were willing to pay \$5.00 or more while 12% said they would pay \$10.00 or more.

Attitudes toward pharmacists making home visits were also obtained. Forty-five percent of respondents said they would pay a pharmacist to come to their home to consult with them about their medications. Of these, approximately half said that a charge of at least \$20.00 per house call would be reasonable.

A surprising finding was the greater interest in these services among younger people than among the elderly. For example, 61% of respondents between 18–29 years of age expressed interest in and were willing to pay for pharmacist house calls. In contrast, only 27% of those age 65 or older were interested.

"Given the greater health concerns and the greater likelihood of needing prescription services, we had expected a higher approval rate among the older segments of the public. Particularly, we thought the concept of the pharmacist's house call would be attractive to older Americans. In point of fact, the interest in pharmacist house calls diminishes with age," Boyle said.

Overall, it seems that initial public reaction to clinical pharmacy reimbursement is quite positive. Although those willing to pay for these clinical services were almost invariably a minority rather than a majority, it is usually a fairly sizable minority.

"There is absolutely no reason to expect majority approval for paying for services that many people may have never considered before or may have considered as part of the expected service of pharmacies," Boyle said at the meeting.

The preliminary findings hint at a very receptive, if complex, market for pharmacists' clinical services. Boyle concluded that "it is clear that the potential demand for health information and services is extraordinary. Pharmacists, with their expertise, visibility in the community, and ease of access, are in a very good position to meet some of this demand."

The consumer survey was funded by an educational grant from McNeil Consumer Products Company.

The American Pharmaceutical Association is the national professional society of pharmacists with some 50,000 members. Since its founding in 1852, APhA has been a leader in the professional and scientific advancement of pharmacy and in safeguarding the well-being of the individual patient.

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# VACATIONERS' PERCEPTIONS OF THEIR COMPLIANCE TO MEDICATION REGIMENS

by Connie Recupero

Patient noncompliance with medications is a well-known and well-documented phenomenon. Much research has been devoted to correctly identifying reasons for patient's failure to contribute to their medication therapy in a manner that would benefit the outcome of their treatment. Researchers in this field believe that behavioral change in these patients who fail to comply with physician's instructions is possible but that the necessary cues to accomplish this change must be reinforced by all members of the participating health care team.

O'Hara and Sperandio perceive noncompliance as a cause and effect relationship of: a) proper patient motivation and b) knowledge of how to take the medication properly. They believe patients should be informed of their expected prognosis—with and without medication therapy. This especially holds true for persons with high blood pressure and other diseases of a chronic repetitive nature that have a widely recognized poor outcome as a direct result of patient failure to comply with physician medication instructions.

The pharmacist is in a unique position to interact with the patient and reinforce both physician's instructions and to encourage patients to follow a medication regimen properly. Many patients are determined to maximize obtainable benefits which avoids the discouragement and frustration that so often precede compliance failure.

Fedder states that there are sixty-five separate tasks that the patient must complete after he visits his physician and is given a prescription for a thirty day supply of a drug with a once daily regimen, and with one refill as part of his or her therapy before the patient will return to the doctor for his next office visit. Fedder feels timely intervention at appropriate intervals can greatly improve the patient's chances for success. The respon-

Connie Recupero is a graduating Pharmacy Student and completed this research paper for Dr. Robert Beardsley in the Department of Pharmacy Practice and Administrative Sciences, University of Maryland, School of Pharmacy. sibility for compliance should not rest only with the physician practitioner and patient. The physician is unable to make timely reminders between office visits and some patients fail to comply in an appropriate manner because they are confused and discouraged by the complexity of their health care regimen.<sup>2</sup>

Crichton, et. al., have proposed that one of the major reasons for noncompliance is lack of appropriate knowledge concerning the patient's medications. They feel patients are confused about the purpose of their medications or about the manner in which the medications should be taken. This confusion leads to failure to properly comply with their regimen.<sup>3</sup>

McKenney, et. al., concluded that a significant number of hospital admissions were due to noncompliance with various medication therapies that resulted in acute exacerbations of their diseases. They feel that some life-threatening and/or expensive hospital stays could be avoided by facilitating a patient education program that would underscore the reasons for the medication and the manner in which the medications should be taken.<sup>4</sup>

Not only does a patient need motivation and education on the part of the physician and pharmacist, but the pharmacist needs to provide the patient with specific information relative to the medication so that the patient can successfully participate in his or her health care. The pharmacist needs to convey the medication name, route and method of administration. In addition, he or she should provide the length of time to use the medication and the maximum amount to be taken in one day along with common side effects and warning signs of adverse reactions and toxicities for which the patient should notify his or her physician. Interactions and proper storage techniques are also necessary information to provide optimal benefit of therapy.

This drug information should be provided to the patient in a low stress environment and in a manner that the patient can understand and incorporate into his daily routine.

Positive reinforcement at the time of refill will further the patient's ability to recall important instructions and the necessity for continued or successful completion of their therapy.

Ley has stated that approximately half the physician's instructions are forgotten before the patient returns home from their office visit or hospital stay. Patient-physician interaction appears to be a stressful situation for the patient who is understandably anxious. Patients tend to remember instructions given first, instructions stressed, or instructions important to them personally. The pharmacist can reiterate important points about medication orders at the time of filling and/or refilling thus reinforcing and reminding the patient and aiding in recall of physician instructions.

#### Problem

The problem, therefore, seems to be one of confusion about the purpose of prescription medication, lack of motivation to continue or complete the therapy and inadequate knowledge of the manner in which the medication should be taken. Thus, the following study was conducted to assess compliance patterns of people on vacation.

#### **Objectives**

- (1) To interview a study population for the purpose of determining patient's perspectives on their compliance problems while on vacation.
- (2) To quantitate the percentage of that population with one, two, three or more prescriptions and relate that percentage to compliance problems.
- (3) To ascertain whether the prescription medications were taken on a chronic or acute basis, and whether this would reflect on reported compliance.
- (4) To establish the identity of the medical conditions requiring prescription drugs and whether or not these disease states had any relationship to compliance.
- (5) To identify reasons behind a vacationer's non-compliance.

#### Methodology

Fifty-four people were interviewed in a pharmacy at a beach resort during June and July 1981. The questionnaire employed contained questions pertaining to

the amount of prescription and non-prescription medications currently taken. The population was also asked whether they took these medications chronically or acutely. Patients were queried on special problems relating to their medications and several questions were asked about the manner in which they took them while on vacation, such as altered dosage, frequency, whether medications had been forgotten and, if so, did they have trouble obtaining prescriptions while on vacation. Patients were asked to make additional comments when appropriate. Interview length was also recorded.

#### Results

The study population averaged 1.85 prescriptions per person. Of the 54 patients interviewed, 35 (65%) perceived compliance problems. They either admitted to skipping doses, terminating therapy until the disease reoccurred or forgetting their medications entirely. Another problem that emerged during the interviews was that numerous people never finished their antibiotic therapy because their symptoms disappeared. This failure to comply properly with antibiotic therapy is costly both in terms of recurrent infections and in resistance development. The other 19 persons in the study population claimed to be following their physician's medication instructions and participating in their therapy as directed.

As seen in Table I, 19 persons of the 35 "noncompliers" (54%) took only one medication. Ten persons in this group (29%) had two prescriptions that they took concurrently and there were 6 persons (17%) with three or more medications taken at the same time. Ten persons (53%) of the 19 "compliers" took only one medication at a time. Four persons (21%) of the compliant group took two medications concurrently and 5 persons (26%) of this group took three or more medications simultaneously.

There is a popularly held theory that simplicity of therapy regimens, i.e. fewer medications to remember to take, is a contributory factor towards successful patient compliance. The only significant difference in the above figures is that a higher percentage of the compliers had three or more medications to remember to take and 29% of noncompliers had two medications to remember to take as opposed to 21% of the compliant group. It would require additional questioning to tell whether or not they had better regulated routines for medication taking or whether they had been involved

TABLE I
"Noncompliers" vs. "Compliers"
Number of Prescription Medicines Taken

No. of MEDS Taken	''Noncompliers''	"Compliers"
	N = 35	N = 19
1	54%	53%
2	29	21
3	17	26
	Total 100%	100%

#### TABLE II "Noncompliant" Group Type of Medications Taken Chronic vs. Acute

Number of Persons Taking MEDS.	Chronic	Acute
35	26 (77%)	9 (23%)
"Compliant" Group Type of Medications	Taken Chronic vs. A	cute
"Compliant" Group Type of Medications Number of Persons Taking MEDS.	Taken Chronic vs. A Chronic	Acute Acute



TABLE III

Number of Prescriptions Taken for Chronic vs. Acute Conditions for Noncompliant Group

Chronic Conditions		Acute Conditions		ns	
Hypertension	8	(25%)	Infection	7	(78%)
Heart	3	( 9%)	Migraines	1	(11%)
Thyroid	5	(16%)	Allergies	1	(11%)
Hypokalemia	1	(3%)	Total	9	100%
Anxiety	2	( 6%)			
Insomnia	1	( 3%)			
Epilepsy	1	( 3%)			
Ulcer	1	(3%)			
Arthritis	1	(3%)			
Allergies	7	(22%)			
Lower Back		` '			
Pain	1	(3%)			
Mouth Ulcers	1	(3%)			
Total	32	100%			



Number of Prescriptions Taken for Chronic vs. Acute Conditions for Compliant Group

Chronic Conditions		Acute Conditions		ns		
Hypertension	7	(23%)	Infection	4	(67%)	
Heart	4	(14%)	Toothache	1	(16.5%)	
Hypokalemia	2	( 7%)	Allergies	1	(16.5%)	
Anxiety	5	(17%)	Total	6	100%	
Ulcer	1	(3%)				
Arthritis	3	(10%)				
Allergies	1	(3%)				
Colitis	2	( 7%)				
Epilepsy	1	( 3%)				
Edema	3	(10%)				
COPD	1	( 3%)				
Total	30	100%				



#### QUESTIONNAIRE

· · · · · · · · · · · · · · · · · · ·	
Number of medications taken	
Type of medications: Chronic	
Do you have any special problems relating to the medications you a	re taking while on vacation?
Left medication at home: Yes No	
Forgot to take it: Yes No	
Don't feel the need: Yes No	
Alter dosage: More Less	
Alter frequency: More Less	
Have trouble getting Rx from Md.: Yes No	
Have trouble getting Rx filled in pharmacy: Yes No _	

in patient education with their health care providers. It is possible that it would be necessary to address this issue to a larger study population.

As indicated by Table II, 27 persons of the 35 "non-compliers" (77%) required prescription medication for chronic medical conditions. Only 9 persons (23%) of this group took prescription medication acutely. Among the 19 "compliant" persons, 5 (26%) took medication on an acute basis, while 14 (74%) stated that they were on long term therapies.

Table III contains data relating to the medical conditions for which the acute and chronic drugs were taken. Of the 32 medications prescribed for persons on long term therapy who had difficulty with compliance, 8 (25%) were prescribed for the treatment of high blood pressure, 7 (22%) for allergies, and 5 (16%) for thyroid disorders. For the nine prescription medications taken on an acute basis among the noncompliant group, 8 (78%) were antibiotics intended for some form of infection.

Table III also identifies the medical conditions for the "compliant" group. The 30 chronically taken medications were associated most often with high blood pressure (23%), anxiety (17%), and some form of heart condition (14%). Of the six medications taken on an acute basis by the compliant group, 5 (67%) were for antibiotics.

TABLE IV
Reasons Given for Noncompliance

Reasons Identified:  1. Left meds at home:	% 24*
Financial difficulty in obtaining meds, either cost of long distance call for a copy	70 21
or to doctor, or the cost of an office visit	
at resort.	14
3. Forgot to take meds.	11
4. Did not feel need for meds and de-	
creased dosage and/or frequency.	10
5. Ran out of meds because of increased	
need.	4

<sup>\*</sup> Based upon responses of 35 patients in noncompliant group. Some customers gave more than one answer.

Table IV categorizes the "noncompliant" vacaioners' reasons for failing to take their medications in
he prescribed manner. Twenty-four of the 35 "noncomliant" group stated that they had left their medications
it home. Eleven persons said they simply forgot to take
he medications. Eleven persons also stated that they
lidn't feel the need for their medications and decreased
either the dosage or the frequency with which they took
heir medications. Fourteen persons complained of filancial difficulty in obtaining medications away from
heir homes. Four persons perceived an increased need
or their medications and ran out of them because of
either increased dosage or increased frequency.

#### Discussion

Survey results would seem to indicate a high nonompliance rate in this patient population. Whether the problem results from a lack of basic understanding of the nature of their diseases, perception of the severity of these diseases and susceptibility to the consequences of their diseases, the results are the same—poor compliance. This type of problem with patient compliance sounds all too familiar and is especially tragic with insidious diseases such as high blood pressure and diabetes where end organ damage can result before the person can be convinced to successfully follow the medication regimen. Proper motivation depends upon patient education, knowledge about their prescription medications and behavior modification on the part of the noncompliant patient. The responsibility for proper patient motivation is shared equally by the physician, pharmacist and patient.

The vacationers in the study population at the beach resort identified five basic problem areas that contributed to their perceived noncompliance. Some of those persons felt that more than one of those reasons was responsible for their difficulty in successfully following their medication regimens.

The foremost reason given for noncompliance was failure to bring medications with them (Table IV). Although difficult to resolve, this problem is not without solutions. Some patients deal exclusively with one community pharmacy and are well-known to the pharmacist. It is within this pharmacist's ability to remind his or her patients to refill prescriptions and take those prescriptions along on the vacation. For those persons dealing with a chain pharmacy, the problem is a little more difficult to resolve. It is entirely possible that two or even three pharmacists plus technicians will be involved in a chain type operation. Since it is improbable that the pharmacist would be aware of their customer's vacation plans, the only recourse here would be to remind the patient about timely refills. Another technique that could be employed in either practice setting is the use of flyers or brochures during peak vacation months— June through August. These could be placed in the bag along with the medication or placed strategically on the counter.

The second most identified reason for noncompliance was financial difficulty encountered in obtaining the forgotten medications. Since these medications were forgotten by vacationers, long distance calls to pharmacies for copies or calls to their family physicians were unavoidable. For those persons without this avenue, it would have been necessary to seek a physician at the resort. Many people were reluctant to pay for long distance calls or office visits and instead chose to do without their prescription medications. Some of that group asked for a product recommendation from the nonprescription medication group. The solution to this problem would be to try and prevent these vacationers from forgetting their medications. The timely reminders mentioned in the preceding paragraph and proper patient motivation encouraged at the time of prescription filling could help to reduce the financial burden of obtaining forgotten medicines and better yet eliminate this category.

Two other common reasons for noncompliance were an inability to remember to take their medications and a perception of decreased need for the medications. Again, pharmacists are offered the unique opportunity to help their clients by explaining the persons medication regimen, reinforcing the need for that medication and the need for compliance.

There were a few persons who ran out of their medications while on vacation because of a perceived increased need. Perhaps these people could have avoided this problem if they had been reminded of a need to refill their prescriptions. It is also possible that these patients should not have been increasing the dosage or frequency with which they were taking their medications. Patient education on the part of the pharmacist could conceivably reduce this group's problem.

Many solutions have been offered to improve patient compliance, such as compliance clinics, reminder devices, medication calendars, and altered packaging. Compliance is a much more complex problem however and resolution of it requires the concern and concerted effort of all health care practitioners working together as a team to educate, reinforce and encourage the patient either to full recovery or to obtain disease control. All strategies seem to improve compliance to some degree but they need to be synchronized with patient awareness. No one plan is optimal in all situations and compliance should be tailored to the specific problems of the patient.

It is difficult to place oneself in the patient role in medication taking. After a certain amount of health education, many things appear self-evident to pharmacists and other members of the health care team. These same issues appear cloudy and confusing to the unaware patient. For example, high blood pressure, diabetes, and cardiovascular disease have high morbidity and mortality rates. It is very difficult to convince a person who feels fine, that they have high blood pressure and this high blood pressure can have severe health consequences for them unless they take a drug that either makes them feel ill or from which they get no positive reinforcement since they did not feel sick to begin with.

I believe that the issue of patient noncompliance is one in which pharmacists can make a significant contribution. They see the patients more often than the physician and are more accessible to these patients. It is possible to compliment and supplement the physician's instructions on medications. After the initial patient interview during which patient education takes place, pharmacists have established credibility and a line of communication which can be used for the good of the patient, and that is what health care is about.

#### **REFERENCES**

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Pharmacy Student Caroline V. Martin (left) received the Harry D Kaufman Award for community service and Christopher J. Conway (right) received the MPhA Scholarship Award from President Milton Sappe.



The Annual Rho Chi Pharmacy Olympics was announced by Phamacy Professor Ralph Blomster.



Each year Pharmacy students and faculty engage in a variety mock olympic events, such as the timed pouring and count relay race.

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It is exciting to consider the contributions these fine young pharmacists will make to society in the years ahead.



The 1983 Spring Regional meeting was held April 17th at the School of Pharmacy Building. House Speaker Stanton Brown (left) and President Milton Sappe (center) listen to Anne Arundel County States Attorney Warren Duckett discuss the Maryland Witness/Victim program and how Pharmacists can utilize it.



Tony Tommasello, Director of the Student Committee on Drug Abuse Education and member of the Association's new Rehabilitation Committee explains the formation and structure of the Committee to the Delegates.



Baltimore County Police Detectives Frank Soistman and Don Barker addressed the BMPA on April 28th regarding the best methods of dealing with an armed robbery in the Pharmacy.



The BMPA meeting was called because of the recent outbreak of violent crimes affecting Maryland Pharmacists. Morton Scherr relates his experiences of being held hostage at gunpoint in his own pharmacy.

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#### **ABSTRACTS**

Excerpted from PHARMACEUTICAL TRENDS, published by the St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor and Leonard L. Naeger, Ph.D., Associate Editor

#### **AZTHREONAM:**

A new monobactam antibiotic has been isolated from an organism found in swamps in southern New Jersey. The drug seems very effective against infections caused by Pseudomonas aeruginosa. The drug, azthreonam, has been synthesized by the Squibb Institute in Princeton, New Jersey. *JAMA*, Vol. 248, #7, p. 2085, 1982.

#### NIFEDIPINE:

Digoxin levels have been found to be elevated when patients are given quinidine, spironolactone, and verapamil. Nifedipine is being used widely to treat cardiovascular problems so it was of interest to see what effect it might have on digoxin levels. With nifedipine coadministration, there seems to be no change in the clearance, distribution, or biological half-life of digoxin. *Clin Pharmacol Ther*, Vol. 32, #5, p. 562, 1982.

#### **ANTITHYROID DRUGS:**

Propylthiouracil and methimazole (Tapazole) have been used to reduce symptoms produced by overactive thyroid glands. Agranulocytosis has been associated with the use of these drugs, so a retrospective study was conducted to determine if those at high risk of agranulocytosis might be identified prior to therapy. Data suggest that these drugs are more likely to cause dyscrasias in patients over the age of 40 years than in younger patients. Additionally, doses of methimazole which were less than 30 mg per day did not cause any blood problems. These clinicians suggest that when antithyroid medications are indicated, one consider the use of low-dose methimazole in place of the more conventional high-dose propylthiouracil regimens currently used. *Ann Intern Med*, Vol. 98, #1, p. 26, 1983.

#### **ETHANOL:**

The depressant effect produced by ethanol has been postulated to be due to an increase in the activity of gamma amino butyric acid (GABA) at the receptor site in the central nervous system. GABA is a neural transmittor which seems to play a role in regulating neuronal activity in the brain. Studies conducted in North Carolina suggest that alcohol does not itself react with the GABA receptor site, but that it may modify the synthesis of GABA thus enhancing its sedative effect. J Pharmacol Exp Ther, Vol. 223 #3, p. 750, 1982.

#### **BICOZAMYCIN:**

Bicozamycin is an antibiotic which is only minimally absorbed (3%) when given orally. The drug acts to eradicate bacteria by inhibiting the biosynthesis of lipopro-

tein. Its activity against E. coli was significant, so it was used in a group of people visiting Mexico. Studies show bicozamycin to be useful in reducing the duration of diarrhea produced by Shigella, Salmonella and toxigenic E. coli. *Ann Intern Med*, Vol. 98, #1, p. 20, 1983.

#### **CANNABIS AND PSYCHOSIS:**

A group of men diagnosed as being psychotic with hypomanic features were divided into two groups depending on the presence of cannabis or its metabolites in the urine. Both groups were identically treated, but it was noted that the group which had the cannabis in the urine improved dramatically after one week, probably due to the removal of the drug from the body. It is suggested that one be cautious in diagnosing psychosis since heavy cannabis use may produce symptoms identical to those seen in these patients. *Lancet*, Vol. II, #8312, p. 1364, 1982.

#### DRUG SYNTHESIS:

Several portions of the cinchona plant were cultured in order to see if they could produce drug products invitro. It was shown that quinidine and quinine can be produced by plant cell cultures treated in an appropriate manner. Plant cultures may represent a new method of synthesizing drugs which are difficult to synthesize chemically. *J Pharm Pharmacol*, Vol. 34, #34, p. 45P, 1982.

#### **OPIATE RECEPTORS:**

There are at least three types of opiate receptors in the central nervous system which are said to mediate the effects produced by these drugs. The mu receptor, named for morphine, mediates analgesia while activation of the kappa receptor, named for ketocyclazocine, is associated with sedation. The sigma receptor is thought to be responsible for mania and other psychomimetic effects associated with narcotic administration. Various agonists are being used to map the sites of these receptors in efforts to more fully understand the complex and interrelated functions of these receptors. An ideal analgesic might be one which would react with the mu receptors to produce analgesic effects without activating the receptors responsible for sedation or psychomimetic side-effects. J Pharmacol Exp Ther, Vol. 223, #2, p. 284, 1982.

#### **TOTAL LYMPHOID IRRADIATION:**

Patients with stage III Hodgkins disease have been able to experience some relief from their condition by subjecting themselves to a treatment called total lymphoid irradiation (TLI). Another group of patients has benefited from this procedure as recently described at a radiological meeting in Florida. Arthritic patients who were not controlled with drug therapy, including the use of azathioprine, gold salts, penicillamine, etc., experienced relief when total lymphoid irradiation was employed. The effects of this therapy were long lasting and more studies will be conducted to determine if this procedure might represent a way of alleviating pain in arthritic patients. *JAMA*, Vol. 249, #1, p. 9, 1983.

#### APPETITE CONTROL:

Much work is being conducted in efforts to unravel the secrets associated with hunger sensations. It appears that serotonin release in the hypothalamus leads to reduced food intake and at the same time allows for accumulation of opiate-like peptides in that tissue. Studies using fenfluramine, a drug which causes serotonin release from these nerve endings, suggest that the anorexiant effect of these drugs may be mediated via a reduction in the functional role of these morphine-like substances within the brain. *J Pharmacol Exp Ther*, Vol. 223, #3, p. 689, 1982.

#### MORPHINE AND POPPY SEED:

Poppy seed has been said to contain some morphine, but it has not been established to what extent this may occur or what consequences might be associated with ingestion of products containing these seeds. A patient was found to have small amounts of morphine in his urine but denied use of any opiate-containing substance. Subsequent experiments conducted in volunteers has demonstrated morphine to be present in the urine after ingestion of foods containing poppy seeds or poppy seed paste. This should be recognized as a possibility when small amounts of opiates are found upon urinalysis. *J Pharm Pharmacol*, Vol. 34, #12, p. 798, 1982.

#### **PROSTAGLANDINS:**

Animal studies show that the cortical collecting tubules of the kidneys can synthesize all the major prostaglandins found in the body. Vasopressin seems to have some regulatory function in their synthesis thus allowing investigators to postulate that prostaglandins may modulate the antidiuretic effect of vasopressin via a closed feedback loop. If true, drugs which inhibit prostaglandin synthesis may have more effects on the kidney than has been postulated. *J Clin Invest*, Vol. 70, #6, p. 1193, 1982.

#### **TEMPERATURE REGULATION:**

The use of opiates can produce either hypothermia or hyperthermia in animals depending on the dose of the drug used and the ambient temperature in which the animal is housed. Narcotic antagonists can block these actions thus suggesting that the regulation of body temperature is yet another function which may be under

control of endogenous opiate-like substances. J Pharmacol Exp Ther, Vol. 223, #3, p. 702, 1982.

#### **AMBULATORY DIALYSIS:**

Continuous ambulatory peritoneal dialysis in children has been used for 8 years, but only within the past five years has it been used extensively. When compared to the process of hemodialysis, the monetary savings associated with the use of this new procedure are significant. In addition, most patients preferred the ambulatory method. *N Engl J Med*, Vol. 307, #25, p. 1537, 1982.

#### MOXALACTAM:

Moxalactam (Moxam) is a commonly used third generation cephalosporin which has activity against a wide variety of pathogenic organisms. Its use has been associated with the development of bleeding episodes, but some have argued that the bleeding was not drug induced, but secondary to debilitation or malnutritional states of the patients. Administration of vitamin K generally corrects the abnormalities. In-vitro studies conducted with blood taken from five patients who experienced bleeding problems while on this antibiotic suggested that moxalactam can interfere with the adenosine diphosphate-induced aggregation of platelets thus increasing the likelihood of platelet dysfunction. *JAMA* Vol. 249, #1, p. 69, 1983.

#### **IRON STORAGE:**

Patients with iron deficiencies or excesses are often encountered, but invasive techniques are generally required to detect these abnormalities. With utilization of a device called a superconducting quantum-interference device susceptometer (SQUID), patients can have their body's iron status evaluated without invasive procedures. The device measures quantitatively the unusual paramagnetic properties of ferritin and hemosiderin thus allowing one to evaluate iron surplus—or deficiency. *N Engl J Med*, Vol. 307, #27, p. 1671, 1982.

#### **CEFONICID:**

An NDA has been submitted to the FDA by Smith-Kline Laboratories which proposes the use of a new cephalosporin, cefonicid, as an agent for the treatment of osteomyelitis. The drug needs to be used only once daily, and thus there is substantial savings for a patient if he can receive the drug via IM injection at home for the last 30 days of therapy and avoid costs of hospitalization. FDC Rep, Vol. 44, #41, p. T&G-3, 1982.

#### RESERPINE:

Reserpine has been used for years to treat hypertension, but side-effects have limited its usefulness. Recent studies suggest that lower than normal doses of the catecholamine depletor, when combined with a diuretic, may be very effective in controlling hypertension without producing the side-effects of lethargy and impotence. *JAMA*, Vol. 248, 1982.

# EMPLOYEE—EMPLOYER RELATIONS FORUM

The purpose of the Forum is to deal creatively with the issues in Maryland Pharmacy employer and employee relations. This Committee of the Association is made up of individuals from a wide variety of practice settings. We are asking for input on current employment issues from all segments of the profession. The Forum will act as a "sounding board" on these issues and will provide some ombudsman activity.

## Model Employment Agreement

The Employer-Employee Relations Forum feels that a clear understanding of the Employment Relationship is necessary to prevent misunderstanding by either the Employer or Employee Pharmacist. The Forum feels an agreement between the Employer and Employee Pharmacist, whether it be an informal verbal agreement or highly structured formal contract, is necessary for a mutually satisfying relationship.

The Forum therefore presents, as a service to the members of the Maryland Pharmaceutical Association, a list of job-related items which should be considered and discussed at the time of employment by the employer and employee pharmacist.

- 1. Job Description. The Pharmacist should have a clear understanding of the duties, responsibilities, and authorities that will be expected as part of the employment. In some cases employer may wish to provide a "Policy Manual" that will outline operating procedures for the employee pharmacist. This will allow both employer and employee to measure performance against an established criteria.
- 2. Length of Employment. In most instances the length of employment will be indefinite. However, the following should be discussed:
  - a. Length of the "Probationary Period" if any.
  - b. The duration of the agreement, if any.
- c. The conditions under which the agreement may be re-negotiated.
- 3. Compensation. As part of the compensation package, some of the following may be considered:
  - a. salary (hourly or weekly)
  - b. overtime
- c. Bonus and/or profit sharing. The method of arriving at such a figure should be pre-determined and agreed upon.
  - 4. Benefits. Without intending to be all inclusive the

following list of possible employment benefits is provided and if available should be clearly understood:

- a. vacation
- b. sick leave
- c. professional society membership
- d. continuing education
- e. health insurance
- f. Life insurance
- g. professional liability insurance
- h. income protection insurance
- i. retirement plan
- j. stock purchase options
- k. personal purchases-employee discounts
- 1. professional attire
- m. court time (jury duty, witness)
- n. funeral leave
- 5. Schedule. While allowing for flexibility, an understanding should be reached regarding the general hours to be worked, shifts, and procedure for requesting alterations of the standing schedules. In addition, it is helpful to know specifically which days will be considered holidays.
- 6. Practice Limitation. In some practices are employee may wish to stipulate that the employee pharmacist may not work for another employer in a relief or part-time position.
- 7. Arbitration of Disagreements. It may be helpfu to provide a description of the manner in which disagreements can be resolved. The employer-employer relations forum will not serve as a formal arbiter, but i available to make recommendations for arbitration.
- 8. Termination. The agreement may be formal o informal, but the amount of notice (and/or severanc pay) should be specified.

In conclusion, we cannot emphasize enough the importance of regular, open communication between the employer and employee.



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#### CENTENNIAL MARKET

- \* Special offer. A Mounting and display kit available from the Association for displaying your Centennial Certificate. \$15.00 each from the Association office.
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- \* The Pharmacy Art Print "Secundem Artem" is available from the Association office. This  $18'' \times 24''$  full color print is only \$25.00 plus \$3.00 for shipping and handling.
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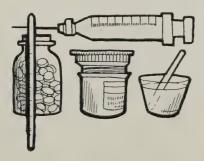
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#### LETTERS



PharmAlert® is a publication of the Student Committee on Drug Abuse Education (SCODAE). The objective of PharmAlert® is the provision of documented information on timely issues related to social drug use and drug abuse. This material is directed to educators and health care workers to supplement their knowledge of drug information. Articles in PharmAlert® may address the pharmacological, clinical and psycho/social issues relevant to the recreational use of psychoactive drugs.

The Student Committee on Drug Abuse Education (SCODAE) of the University of Maryland School of Pharmacy is a voluntary organization of Pharmacy students who with faculty support and guidance, are committed to contributing their knowledge and personal talents toward the development of rational attitudes about drugs and their capacity for beneficial and toxic effects. SCODAE strives to accomplish this goal by serving as a source of unbiased information concerning drugs. We believe in presenting relevant data as honestly as possible to assist people in making informed decisions concerning the use of drugs.

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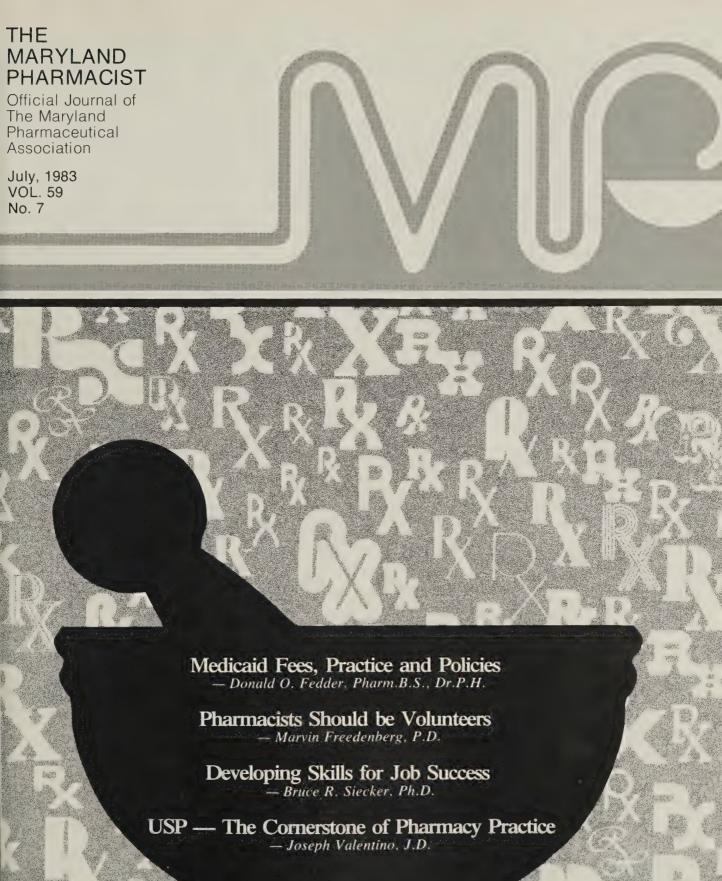
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As we begin the first year of our new century, I would like to report that your Association is in good health and that the prognosis for it's long life is

encouraging.

Last year we reached a record number regarding the membership list. When we decided to give ourselves the P.D. designation and the Association issued P.D. certificates it certainly helped our membership drive. This year's Committee thought that if we could retain 90% of our membership, this would be a successful achievement that would result in our second largest number of members in our history. The Membership Committee will accomplish this and has an outside chance of reaching last years record numbers. Remember they also worked under a large handicap because Charles Spigelmire, our membership field agent, was not around to help. That might be worse than the Colts not signing John Elway.

Our financial condition is good and is being watched over by our Treasurer, Melvin Rubin. We conserved our assets and kept our expenses down. Dave, through hard work, made the <u>Maryland Pharmacist</u> come in closer to budget. Yet, as each of us knows money does become a problem. Expenses go up while sources of revenue may diminish or even dry up and it is not inconceivable that in the next few years

some changes might have to be made.

All our committees met and I would like to thank all those who served and

gave help and time to their Association.

I would like to single out just one committee, a new committee, which you will hear more about later. Last year the House of Delegates passed a resolution to aid impaired pharmacists. This is being done under the co-chairmanship of Harry Finke and Tony Tommasello. They have started and seem to be on the way to doing what I am sure we know must be done, helping our fellow pharmacists and our profession

with a problem that is all too common with may professions today.

This year for the first time your Board attended a retreat to discuss a long range overview of our Association and there was a general consensus among those attending that it would be wise for us, as an Association, to develop a well thought-out master plan for our future. Thoughts could be given to where our members will come from in future years, how our finances will change, where will funds be garnered, and what will be the roll of the Association in filling the needs of its' members. Change is today's by-word and your Association must be ready. In conjunction with this idea, your committee to rewrite the constitution met and came to the conclusion that much has to be done to bring the constitution up to date. It is not hard to see these two ideas meshing together over the next few years to give us a stronger and more useful Association.

Finally, my thanks to the Association and all its' members, the committees and their chairmen, and especially to our Executive Director for helping me and the

Board to complete a successful term.

(Delivered at the 1983 Annual Convention, Ocean City, Maryland)

PRESIDENT

# The Pharmacists of Maryland and the Medicaid Program: Issues of Fees, Practices and Policies\*

Before one can discuss issues of prescription pricing fraud, it is important that there be an understanding of the methods used by pharmacists in charging for their services and the role that government and other third party intermediaries have been and increasingly are playing in this regard.

The current method for charging for pharmaceutical services is of recent origin. Until the 1960's, prescription prices were quite uniformly arrived at by applying a percentage mark-up to the wholesale cost of the ingredients, a cost that was established by the manufacturer and was remarkably stable. Ingredient costs were relatively small, frequently a minor portion of the total price charged the patient or consumer but never exceeding 60% of that total price.

The advent of the manufactured final dosage form, and the subsequent decline in the extemporaneous compounding of prescription brought about a number of changes. Pharmacists began to fill increasing numbers of prescriptions as a result of the fast paced development of new drug products for previously untreatable diseases and conditions. Traditional marketing patterns changed, with the growth of chain pharmacies and the subsequent development of non-traditional prescription stores (regular food markets, discount stores). The independent pracitioners were being pulled in several directions at once—to become bigger and to expand their product lines and to become more "professional", devoting their time to the prescription department and allowing the rest of the merchandise to be self-selected by an eager public. Pricing policies changed, also, and the fee system came into general use. In this system, in place of a percentage mark-up based on the ingredient costs, a fixed or sometimes a variable fee was added to the wholesale cost of the drug product. Medicaid and other third party programs came into being and adopted the fixed fee concept for their own. This was due to the ease of administering such a system but in recognition of the fact that the cost of the product dispensed was only incidental to the cost of providing the prescription service, which included many or most of the items listed in Table 1.

In the beginning, the third party prescription programs accounted for a small part of pharmacy practice. Although the fees adopted were always considered too low, public interest mandated that pharmacists participate (e.g., Pro bono)—and the consequences were minimal. As these programs began to grow, both as to number of persons covered and costs of providing prescription coverages, administrators started to look for cost-cutting mechanisms. Since the pharmacy fees were fixed and identifiable, and since federal antitrust laws forbid joint action by providers, pharmacy fees became a good target to shoot at. As an example, in 1968, Governor Agnew moved quickly when faced with a minor crisis in the medicaid program, and cut 50¢ off of the pharmacists' fee, thus "saving" several million dollars with one fell swoop.

What followed over the next few years was a tough battle to regain what was lost, and the pharmacists forevermore grew to distrust the state government.

The next stage in the "cost-containment" process was to look to controlling the other portion of the drug bill, the ingredient cost that was determined unilaterally by the manufacturer. Program administrators became aware that, in the inflationary era that was developing, price increases were being "passed" through and were causing real distress in budget setting. Not able to set price controls on the manufacturers, the "Maximum Allowable Cost (MAC)" concept was born. A committee of HEW (HHS) established the maximum (ceiling) price that would be paid to a pharmacist for a drug product that they determined was available from multiple sources at varying prices. In some instances, the lower priced drug was not generally available in a given locality, but the MAC was adhered to anyway. In such cases, pharmacists paid more for the drug than they were reimbursed (an undeserved sanction)—and this continues to this day!

Other schemes have been suggested, but invariably the remedy for the errors once identified were corrected after the fact and the lead time was always costly for the pharmacists.

The last half of the 70's provided a new problem that was entirely unforeseen—double digit inflation that saw the cost portion of the prescription price rise well out of proportion to that when the standard fee concept was developed. In this "new ball game", investment in drug product outstripped the return provided in the fee for-

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mula and resulted in hardships for most. Adding to these woes were the following:

- \* Escalating interest rates that made borrowing prohibitively expensive.
- \* More third party plans, such that many pharmacies approached 100% third party.
- Delays in processing claims resulting in further costs.
- \* Charges that persons were cheating the program—when all along, pharmacists were concerned because they felt the program was cheating them. In fact, there has been a breakdown of confidence such that both sides, instead of working together to provide a service, have assumed an adversarial relationship.

Enter the police power of the State (with all its power), making charges of fraud for practices that in normal times and in other fields are considered good business practices.

Prudent buying practices that result in savings that normally accrue to the merchant are sought after by hungry administrators. So they seek to have providers reimbursed the exact amount that they pay for the product (the actual acquisition cost), thus serving as a disincentive to developing good buying practices.

Pharmacy, the originator and champion of generic substitution, are now beginning to rue the day that they did because government now wants them to turn over every penny saved—at a net profit loss to the provider.

Lastly, inflation has seen the average cost of the prescription (the product cost only, without the pharmacists fee) rise so much that in place of a program requirement for preauthorization for any product whose cost is above ten dollars (1974), preauthorization today is required only when the drug costs exceed forty dol-

Laying out \$40 of product for a \$3 fee, and waiting 6-8 weeks for payment makes no business sense. Yet, if pharmacists were to reduce the quantity to \$10 worth in keeping with the proportion under which the fee concepts was developed and is rational, government unilaterally labels this fraud.

Let's now look at the usual and customary practice of pharmacy. Most practitioners today use the fee concept in their "for pay" practice, but will use incremental charges when the cost of the product exceeds a fixed amount. For example, the fee for a prescription whose ingredient cost is from \$1-\$8 may be \$4; from \$8.01-\$15 be \$5; from \$15.01-\$25 will be \$8. In face of the high cost of servicing debt (and inventory) business practices mandate such a practice. Why then is government so insensitive to the problems of the practitioner?

Surveys conducted at their own behest have documented the cost of filling prescriptions, but "budgetary limitations" invariably limit fee increases to something less than the "cost" of their own survey forms. The cynicism that exists on both sides of this controversy is such that no one wants to believe the other. In the meantime, the profession feels that the administration is unfairly defining some practices—notably reducing quantities to rational amounts—as fee splitting and fraud.

It seems that reason and fairness calls for an analysis of the problem and a more equitable solution.

Table 1 These 16 Separate Steps Outline Comprehensive Pharmacy Services

#### 1 Receive prescription

- a. written
- b. oral

#### 2 Check prescription for

- a. authenticity
- b. legality

#### 3 Identify patient clearly and update patient medication profile

- a. review patient's disease state
- b. review current therapy
- c. review age, sex, weight, allergies, idiosyncracies, dietary restrictions

#### 4 Decide on therapeutic appropriateness of prescription

- a. drug
- b. dosage regimen
- c. administration regimen
- d. route of administration

#### 5 Decide on economic appropriateness of prescription

- a. quantity
- b. drug product selection

#### 6 Make appropriate recommendations to physician, patient, and/ or patient's family

#### 7 Assemble correct drug and select appropriate container

- a. decide on patient's ability to handle childproof container
- b. decide on patient's ability to store drug correctly at home
- 8 Measure, weigh, count, compound, and package medication

#### Prepare label instructions and attach

- a. specific administration directions
- b. appropriate auxiliary labels
- 1) storage 2) refill authorization 3) cautionary 4) therapeutic warnings

#### 10 Determine cost and appropriate fee

#### 11 Patient consultation and dispensing

- a. reinforce all label instructions
  - 1) special consideration of patient's ability to comprehend written and oral instructions
- b. add more instructions as necessary
  - 1) special consideration of a patient with impaired sight or hearing
  - 2) special consideration of patient's physical impairment
  - 3) special consideration of patient's age (pediatric, geriatric)
- c. consider the need for special instructions to the patient's family
- d. point out need for compliance with all instructions
- e. dispense the prescription

#### 12 If patient is not present

- a. follow procedure 11
- b. select additional method (telephone, written instructions) to address patient personally

#### 13 Complete patient record

#### 14 Return product to storage area; reorder, if necessary

#### 15 If patient fails to pick up prescription

- a. contact patient
- b. if patient does not respond
  - 1) adjust the patient record
  - 2) notify the prescriber

#### 16 Notify patient of impending refill (where appropriate, as in chronic care medications)

a. if no response, follow procedure 15b

## Techniques of Time Management

by H. Kent Baker\*

Like most small business owner-managers, you must solve the problem of having too many demands made upon your time. Often other people control your time and your work day gets longer as you take on more commitments.

If you don't manage your time, you could fail to achieve your full potential.

Much time is wasted doing things that should be done in a few moments or not at all. The effective use of time is the subject of this paper.

#### Get Out of the Time Trap

Despite all of the computer age's time saving machines, you probably find yourself in a time trap, being always short of time and unable to do everything that you need to and would like to do. You think, "If only I had more time, I'd be able to get out from under this mess." Think a moment. You cannot get more time. The challenge is to use your time more effectively. The problem is not in how much time you have but in how you use your time. Time is a limited resource so don't take a haphazard approach to managing time. Its effective use requires a systemtic approach. Improving your use of time allows you to:

- avoid crises.
- gain a feeling of accomplishment,
- do the things of benefit to you or your business, and
- live your life, not just spend it.

To manage time better the first step is to gain a better perspective of your time. Resolve to manage your time and not let time manage you. Once you realize that the way you handle time causes some of your time problems, then you can begin to develop a time management strategy.

In devising this strategy, keep two thoughts in mind. First, it takes time to learn how to use time effectively. Second, the principles of time use are not universally applicable. Although many time use principles are simple common sense ideas, often uncommon sense is required to make a plan that fits your needs.

This strategy of learning how to make your time of greater benefit involves investigating three important questions:

- 1. Where does my time go?
- 2. Where should my time go?
- 3. How can I use time better?

By systematically answering each question, you will be better able to control your time.

#### Where Does My Time Go?

Frequently time management problems stem from poor work habits; so analyze how you spend your time. Find out how you waste time. Realize that *you* are the probable cause of most of your own time problems and the painful task of changing your habits is required.

#### Using a Time Log

A common technique for determining how much time is consumed on various tasks throughout the work day is to keep a **time log**. This procedure consists of maintaining a diary in which every 15–20 minutes you record what you have down. After several days of listing your activities you will have a sufficient number of observations for analysis. The time log should then be summarized and analyzed to determine what could have been done to make better use of your time.

In analyzing your time log, you should ask yourself several questions:

- 1. What are the major activities or events which cause me to use my time ineffectively?
- 2. Which of these tasks can be performed by me only?
- 3. What activities can be delegated, better controlled or eliminated?

#### **Analyzing Time Wasters**

By developing a list of your own time wasters, you can begin to pinpoint those activities which require change or elimination.

#### Twenty Major Time Wasters

#### External

- 1. Telephone interruptions
- 2. Meetings
- 3. Visitors
- 4. Socializing
- 5. Lack of information
- 6. Excessive paperwork
- 7. Communication breakdown
- 8. Lack of policies and procedure
- 9. Lack of competent personnel
- 10. Red Tape

#### Internal

- Procrastination
- 2. Failure to delegate
- 3. Unclear objectives
- 4. Failure to set
- priorities
  5. Crisis management
- 6. Failure to plan
- 7. Poor scheduling
- 8. Lack of self-discipline
- 9. Attempting to do too much at once
- 10. Lack of relevant skills

School of Business Administration, The American University, Washington, D.C.  $\,$ 

You are likely to find three revealing facts. First, you are probably spending 80 percent of your time on items that produce only 20 percent of the real benefit. This is called the "80/20 rule." Getting bogged down on low value activities could be the reason for your inability to do important tasks. Low value items are generally easy to do and give a sense of accomplishment; but they are time consuming.

Second, time wasters may be internally generated by you or externally generated by events or other people. Internally generated time wasters are the easier ones to resolve because they stem from your own actions or inactions. Thus, if you are part of the problem, you can become part of the solution. Time problems which are externally generated, however, require more imagination and creativity because they are not totally within your control.

Third, you may find you are grossly overpaid for some of the things you do. Some people become so enmeshed in work that they lose sight of why they are doing it and how much it really costs. Put a price tag on the items on your list. You will find that doing certain tasks yourself simply is not worth the cost. For example, typing your letters may not be very efficient use of your time. This does not mean that the task is not important but that some tasks are only worth doing if done by lower paid individuals.

#### Where Should My Time Go?

A major reason you fail to make the best use of time is your lack of specific goals. You become easily side-tracked and waste time of lack of direction and focus. The importance of knowing where you want to go is clearly portrayed in the exchange between Alice and the Cheshire Cat in Lewis Carroll's Alice in Wonderland.

"Would you tell me, please, which way I ought to go from here?" asked Alice.

"That depends a good deal on where you want to go to," said the Cat.

"I don't much care where," said Alice.

"Then it doesn't matter which way you go," said the Cat.

Avoid Alice's plight. Specify your destination before you begin.

#### Set Goals and List Priorities

Determine what you really want to accomplish. This requires setting long and short-range goals and allocating specific blocks of time to each. These goals should be put in writing and reviewed frequently. A goal that is not in writing is merely a dream.

To make these goals operational a daily "to-do" list should be used. Each workday should begin with a plan of the tasks to be performed and the priority of each task. In budgeting your time, allocate part of each day to tasks that will lead to the accomplishment of your goals. That is, blocking out part of your day or week for major projects will help insure that you have time to do the important things.

In planning your day with a to-do list, priorities should be set for each task or activity. This is as simple as ABC. Assign A's to items of high value, B's to those of moderate value activities, and C's to low value items. When you begin your day, start with A's not with C's. Proceed throughout the day from the most important to the least important items. (If you don't finish them all, you probably couldn't with any other method.) Make this a habit every working day.

#### **Developing New Habits**

Probably you will have to break old habits and make new ones. To help make new habits stick, first launch the new habit as strongly as possible. Given that old habits are difficult to break, determination is needed to establish new ways of doing things. Set up a routine that contrasts with your old way of doing things. Second, don't let an exception occur until the new habit is firmly established. Allowing exceptions simply prolongs the development of the new habit. Third, take the first opportunity to act on your resolution. The time to act is now—don't procrastinate.

#### How Can I Use Time Better?

Ten useful tips on time management are examined below.

#### 1. Consolidate Similar Tasks

Group or consolidate similar tasks. This step will not only minimize interruptions but also will economize on the utilization of resources and efforts. For example, instead of making calls sporadically throughout the day, group and make out-going calls at specific times each day. Frequent callers can also be informed that the best time to reach you is during certain hours. You can thus sensitize callers and help them to develop a habit of calling you when you prefer, not when they prefer.

#### 2. Tackle Tough Jobs First

A tendency exists to work on petty chores first with the idea of working up to bigger projects. What often happens, however, is that the tough jobs simply don't get done because too much time is spent doing the unimportant things, and by the time you get to the tough jobs you are too tired to work on them. The solution is to reverse the process. Start your day with the important work when your energy level is high and work your way down your list of priorities. If time is available at the end of the day the "C" items can be completed.

#### 3. Delegate and Develop Others

If you think that the only way to get something done right is to do it yourself, then you are probably overwhelmed with work while your subordinates enjoy less harried work schedules. Try to break the "do-it-yourself" habit. Delegate work whenever possible. Delegation does not mean "dumping" a task on someone else but carries with it the responsibility of making sure that the individual has the requisite skills and knowledge to do the job. The time devoted to training and motivating people to do tasks which customarily are performed by you will reduce your time burdens in the future and enrich the jobs of others.

For example, you can give more of your work to your secretary if you have one. A secretary can perform many tasks that will prove to be great time savers, such as screening visitors and calls, drafting letters, and anticipating problems before they arise.

#### 4. Learn To Use Idle Time

Always try to maintain a reservoir of things to do during idle periods. Instead of waiting for an appointment with nothing to do, you can read an article, review a report, or catch up on correspondence. Travel time can also be converted into useful time. For instance, if you have always wanted to take a management improvement course but could not find the time to get away, then listen to tapes as you drive to work.

#### 5. Get Control of the Paper Flow

To help stem the flood of paper work, decide what can be streamlined or eliminated. Throw out junk mail, cancel unused subscriptions, and have mail routed directly to subordinates. If possible, handle each piece of paper once and don't pick up a piece of paper unless you plan to do something with it. For example, a complaint does not go away simply because the letter has been put aside; so, move the paperwork along instead of letting it stack up on your desk. Being a paper shuffler wastes time and leads to inefficiencies.

#### 6. Avoid the Cluttered-Desk Syndrome

If your desk is piled with paper and you waste time looking for buried items, clear your desk of everything except the work you intend to do during the day and keep it visible. The chances are that you will get it done.

#### 7. Get Started Immediately on Important Tasks

Putting things off until tomorrow is easy. In fact, people generally do the things they enjoy first and procrastinate on the tasks they dislike. Self-discipline is needed to overcome procrastination. First, if you put off doing a job because it seems overwhelming, then break the task into bite-sized pieces that are more palatable to digest. By following this "Swiss cheese" technique, you will soon find that poking holes in the project makes it less overwhelming. Second, unfinished work is more of a motivator than unstarted work. By having started a job you have made an investment of your time and are more likely to complete the task.

#### 8. Reduce Meeting Time

No doubt, many meetings should not take place. Sometimes the only reason for a weekly staff meeting is because a week has passed since the last one. Such meetings disrupt your work. Reduce the number and improve the quality of meetings. Follow an agenda. Save time (and money).

If needed meetings are too long, schedule the next meeting to bump up against the lunch hour or quitting time. Most people will wish to leave. Also, a standup meeting helps to guarantee a short meeting.

#### 9. Take Time to Plan

Have you ever heard anyone say, "I just don't have time to plan?" If you have, then you probably observed that these individuals were very busy but not very effective. A paradox of time is that by taking time to plan, you end up saving time. Instead of spending the day "fire fighting," develop a schedule for doing the things that must be done in the available time.

#### 10. Learn to Say "No"

Someone is always asking for a piece of your time. Instead of being honest and saying "no" to the request, the tendency is to hedge and end up accepting a responsibility you neither want nor have time to perform. Saying "no" requires some courage and tact but you will be proud of yourself when you learn to say "no".

#### Now Is the Time to Put It All Together

Your ability to manage time effectively could separate you from unsuccessful business people. Unless you manage your time, you will be unable to manage much else for "Time and the tide wait for no man."

#### FOR FURTHER INFORMATION

Readers who wish additional information may be interested in the references below. The list is necessarily brief and selective; however, no slight is intended toward authors whose works are not mentioned.

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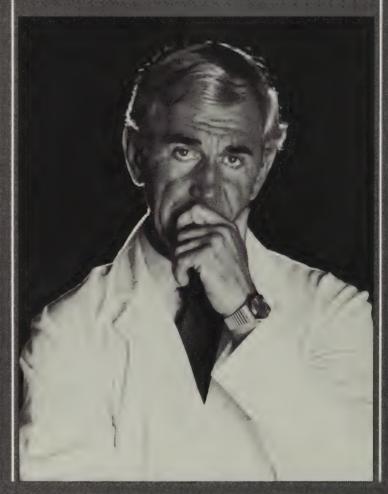
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# An Evaluation of the Maximum Allowable Cost Program

by

Jean P. Gagnon, PhD

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and

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Two government-sponsored studies estimate net governmental savings from the MAC Program at one percent of Medicaid drug payments. The Gagnon and Grabowski analysis indicates that the estimates of administrative costs of MAC derived in these studies are implausibly low. The MAC Program is being subsidized by retail pharmacists, or by private pay patients in the form of higher costs charged for their prescriptions. Thus, MAC becomes a cost shifting as well as a cost saving program. The long-term consequences of the MAC Program may involve a reduction in the pharmaceutical industry's incentive for research and development.

MAC is a government program for controlling drug reimbursements under Medicaid and Medicare. Under this program maximum allowable cost limits are set for frequently prescribed drugs available from multiple sources of supply. These limits are set, by the federal government, at the lowest price at which a drug is "widely and consistently available". The program became operational in 1977 and to date MAC prices have been assigned to nine groups of drugs comprising a total of 57 drug dosage forms.

Jean Gagnon, Ph.D., a University of North Carolina Professor of Pharmacy, and Henry Grabowski, Ph.D., a Duke University Economist, critiqued three previous studies which had been conducted on various aspects of the MAC Program and presented their interpretation of supply-side responses to the MAC Program.

Two government-sponsored studies, conducted by Abt Associates and the General Accounting Office (GAO), respectively, focused on an evaluation of MAC Program savings and administrative costs to the government. Using separate five-state samples, both Abt and the GAO estimate net government savings from the MAC Program at one percent of Medicaid drug payments in these states.

Gagnon and Grabowski agree with the basic conclusion of the Abt and GAO studies, that governmental savings from the MAC Program exceed administrative costs, but they feel the estimates of administrative costs are implausibly low. The authors also cite a number of methodological problems and omissions in these studies which tend to bias upward their savings estimates. The Abt and GAO studies tend to overstate the actual savings potential of the program, for two reasons:

- 1. They focus their analysis only on the initial groups of MAC drugs, which have a greater savings potential than later MAC groups.
- 2. They fail to consider the influence of price reductions caused by drug product selection and by state-imposed cost limits.

The third study, an industry-sponsored study conducted by Pracon, Inc., is especially critical of the process used to select drugs to be MACed. Pracon points out that there is no consistent procedure being used by the Health Care Financing Administration to select MAC candidates and that the method used to estimate potential savings is questionable. Additionally, Pracon discusses the problem that arises from employing nationally uniform

MAC drug prices without regard for regional price variations and utilization patterns; *i.e.*, uniform MAC price limits are frequently too low. This discourages pharmacy participation in the program and may limit access to medical services for Medicaid recipients.

Professors Gagnon and Grabowski highlight important public policy questions that transcend the immediate impact of the MAC Program and require additional research. Although broader impacts of the MAC Program have received limited attention, the authors find data in the studies which suggest such impacts may be important:

- 1. The Abt study identified a significant number of Medicaid prescriptions filled with MACed drug products at costs to the pharmacist above the government's MAC limits.
- 2. Pracon found that drugs available at or below MAC prices are stocked in only 51 percent of community pharmacies; hence Medicaid prescriptions for MACed drugs will be filled at a loss or at reduced profit to pharmacists.

These data suggest that the MAC program is being subsidized by retail pharmacists, or by private patients in the form of higher costs charged for their prescriptions. Thus, MAC becomes a cost shifting as well as a cost saving program.

#### **Supply-side Responses**

Gagnon and Grabowski pay considerable attention to a supply-side analysis of the MAC regulations by reviewing manufacturers' behavior in response to government-imposed price ceilings.

The Abt analysis of drug manufacturers' pricing trends suggests that companies seeking to remain competitive within the MAC program by lowering prices on some products to meet MAC levels may compensate by raising prices of non-MACed drugs. Gagnon and Grabowski conclude that a further analysis of this form of cost shifting is a high priority for future research.

Gagnon and Grabowski indicate that the long-term consequences of the MAC Program may involve a reduction in the pharmaceutical industry's incentive for research and development. Previous studies indicate that the level of a firm's cash flow and its expected returns on new drug introductions are important determinants of R&D expenditures. To the exent that the MAC Program negatively impinges on these factors, experience suggests that R&D outlays will be reduced:

"The supply-side response to the MAC Program with the most potentially significant adverse societal effects is the impact on R&D outlays. To the extent that the government's MAC Program results in generic drugs gaining a much greater overall share of the drugs dispensed . . . there will be a corresponding decline in current and expected future revenues to the research intensive firms that develop new entities."

The effect of the MAC Program on long-run R&D incentives and the potential effects of cost spillover onto retail pharmacists and private patients remain important areas for continued attention by policymakers and for further academic research.

In conclusion, Drs. Gagnon and Grabowski place the MAC program in the perspective of other important elements which determine the environment for innovation in the pharmaceutical industry:

"The research intensive firms are increasingly dependent on a relatively small number of major new drugs, those capable of winning relatively large market shares, here and abroad, to finance and provide the returns on their overall portfolio of R&D investment projects. These major products, however, also provide the most attractive markets for generic follow-on producers. The degree of competition provided by these latter firms is likely to substantially increase in the emerging marketing environment characterized by the MAC Program and drug substitution laws. If market exclusivity periods are insufficient to provide significant premia for these research winners, there will in turn be insufficient investment funds forthcoming to exploit all the scientific opportunities for developing socially beneficial new drugs."

JULY, 1983



# Do you know a pharmacist who has won this Upjohn Achievement Award?

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It is exciting to consider the contributions these fine young pharmacists will make to society in the years ahead.

### Pharmacists Should Be Volunteers

Marvin Freedenberg, P.D.

I have been appointed to serve on the Maryland Pharmaceutical Association's newly reactivated Public Affairs Committee. This Committee is charged with handling the issues of public image, opinion and awareness of the pharmacy profession in Maryland.

One Committee project is to identify pharmacists active in community service organizations and to encourage all pharmacists to become involved in community and health activities.

I have been a volunteer for the American Cancer Society for many years. It has been a personally enriching experience and I have truly received much more than I have been able to give in helping cancer patients and their families. I have met some wonderful people—patients, families, care-givers from all disciplines, volunteers and professional staff people—each and every one dedicated to putting an end to the suffering caused by cancer.

The purpose of this report is to tell you about some of my experiences in the hope that you will feel encouraged to share some of your time and talents as pharmacists and community members. If you make a really sincere effort, you will feel a great deal of professional pride and personal satisfaction.

One does not "join" The American Cancer Society (ACS). One simply senses a need to reach out to help because a friend or a family member has had or is having a cancer experience. In my particular case, I was simply asked to meet with a couple of nurses, a physician, a social worker and a housewife who were trying to give cancer patients assistance by making available a bed-side commode, a wheel chair or hospital bed; or by supplying dressings; or by helping to temporarily defray part of the cost of some supportive medications.

You see, the Society on a national level is mainly concerned with research. But, the emphasis on a state or local level is heavily focused on direct service and rehabilitation, as well as public and professional education. Thousands of crusaders, also volunteering their time, are involved in the fund-raising that supports the Society's overall programs of research, education and patient service.

My contribution has been in the areas of patient service and rehabilitation, professional education and, more recently, in public awareness and legislative issues as they primarily affect cancer control in Maryland.

If I were not a pharmacist, I probably never would

have become a volunteer with the Cancer Society—and I would have missed a very exciting aspect of my life. I sincerely hope you can sense my enthusiasm and be prompted to seek the same kind of thrills and excitement of being involved in dynamic programs that you helped to initiate and implement.

I became Patient Service Chairman for Montgomery County Unit of the ACS and continued on to become President of the Unit. Because of some programs I was involved with, I was selected Patient Service Volunteer of the Year for the Maryland Division.

I was appointed the State (Division) Patient Service Chairman and became active in state-wide programs intended to improve the quality of survival for cancer patients. One such program was the Society's commitment to the hospice concept in Maryland. (I currently serve on the Professional Advisory Group for the Montgomery Hospice Society.) I continue to play an active role in the legislative affairs that affect cancer control and prevention.

Recently, my fellow volunteers honored me by electing me Chairman of the Board of the Maryland Division. It is an honor I shall always cherish.

On occasion, I travel around Maryland meeting with other Society volunteers. When I'm told of difficulty in recruiting health volunteers, my response is usually—"I know there must be a pharmacist in this community just waiting to be asked to help."

My suggestion to you, my fellow pharmacists, is don't wait to be asked. Volunteer to help! You can set your own schedule. And, your time will be greatly appreciated.

And best of all, when you do volunteer, you'll be opening up a whole new world for yourself, your family and your community. Furthermore, there is the simple fact that you can enhance and polish the image of pharmacy and pharmacists everywhere by telling everybody that we are concerned members of the community in which we live and work.



# Developing Skills for Job Success\*

On the afternoon of July 20, 1969, the world was treated to these now-famous words from a large pile of rock more than a quarter million miles away in space, "The Eagle has landed."

Hundreds of millions of people worldwide heard the message; few heard without emotion and a deep sense of pride in the human spirit. It raised hopes of a better tomorrow, of a chance someday to escape the mess we have made of this planet to a new world. A chance to begin again, to do a better job this time.

This same feeling swells up in most everyone at time—the desire to get away from it all, even to run, to find our own "new world" and begin afresh. At times we long for peace and quiet, for the simpler times when "things" were going our way. Rarely are we sure where it is that we want to go or what we really want. We just want "out".

The same feelings sometimes occur on the job. Feelings of "If I had only . . ." (pick a favorite).

- "... had studied something else instead of pharmacy."
- "... taken that other job I was offered."
- ". . . told the boss how I really felt."
- "... been more cooperative instead of fighting the new boss."
- ". . . gotten that promotion."
- "... been luckier and gotten a few breaks."
- "... inherited some money so I could buy my own pharmacy."

... happen to all of us on occasion. Some pharmacists feel they would be happier as managers; others dream of the day they will own their own chain. Managers sometimes wish for a simpler life when they were "just pharmacists" and someone else worried about how to pay the bills. Owners periodically muse about how much they could get for their pharmacies when times are rough.

Such feelings are normal. They are rarely a real problem, unless allowed to be. Indeed a few people do run, only to find that "running away" is not a solution. The only change is the scenery. Others develop the attitude of the dreamy-eyed lion, popularized in greeting cards and posters, who admonishes us to "Hang in there, baby." Still others take a page from Thoreau and lead lives of quiet desperation.

Fortunately, most people refuse to allow circumstances to rule—or ruin—their lives. They take bold, strong steps to improve their lot and end up enjoying their lives and work much more.

One way to make things better is to be more successful, because successful people are usually happier. Success means different things to different people, but most agree that success on the job means security, advancement, and appreciation.

To date no one has formulated the perfect recipe for success. Suggestions range from being the proverbial "nice guy", who smiles all the time and never sees a problem or anything wrong, to looking out exclusively for number one and the heck with everyong else, and all points in between.

Continuing a search for a formula that has eluded the best philosophers for generations seems fruitless. On the other hand, it is useful to study what the top people in industry and government did to get where they are, and similarly, look for in their successors.

#### The Climb Upward

Successful people are *reliable* professionals. Their words are their bond, their deeds consistent. They deliver what they promise. They show up for work—on time—every day. They give their employers a full day's effort and can be counted on to do their jobs right. Managers learn to rely on them and have faith that they can be trusted to do what is expected of them.

A pharmacist who decides to go ahead with a scheduled vacation, when a coworker becomes disabled and the prescription department is short-handed, is not a reliable worker. Neither is the pharmacist who stays out too late the night before, then limps through the day on only two cylinders.

Relatedly, successful people are *team players*. They realize that they are part of an organization that either advances or fails in direct proportion to how well they do their job and support the other players. A team player is not worried about getting the credit, only that the job gets done well. They adhere to Ronald Reagan's belief that "there is no limit to what a person can accomplish, if he is not concerned who gets the credit". Team players are not glory seekers who "play" for the cameras.

Team players spend their time helping other employees, even if they do not like them personally. They teach, rather than criticize. They help, rather than ridicule. They pitch in, instead of walking past work that is not theirs to do.

A team player makes sure that everyone is included

<sup>\*</sup> By Bruce R. Siecker, Ph.D., Director, APhA Pharmacy Management Institute and Professor of Pharmacy Administration, and Kenneth R. Shrader, Ph.D., Dean, School of Pharmacy, Northeast Louisiana University.

when it is time to say thank you for a job well done. They recognize that any project, or task, requires the cooperation of *all* pharmacy employees, not just the glamour players. Technicians, secretaries, and delivery personnel all share in the work, satisfaction, and credit, when a team player is involved.

Team players realize that someone ultimately has to make final decisions, and do not "pout" when the manager makes a decision that is contrary to their views. Team players accept the decision as a marching order and enthusiastically support it, because they know that it is meant to help the whole organization.

Successful people have *integrity*. They can be trusted with sensitive information; they are honest. They do not take advantage of any situation, simply because it is to their temporary advantage.

Suppose a pharmacist realized that a patient did not understand how to take his medications, even though the pharmacist had explained it thoroughly. The proper course, obviously, would be to reexplain the directions to be sure. The same principle holds true in business and work dealings. If a subordinate or a supervisor did not fully understand what they were agreeing to, it might be easy to take advantage of the situation for personal gain. The same can be true in dealing with a supplier. A worker with integrity, however, would not take advantage.

This attribute is very important, so much so, that it was the most frequently mentioned characteristic when CEOs were interviewed for a recent article in *Fortune* magazine about successors for the top spots in Fortune 500 companies.

Successful people are *valuable* to their employer. They do their jobs well, are eager to accept new assignments, take the time to learn jobs outside their immediate purview, and give more than is expected of the average employee.

They learn to do the things their supervisors dislike doing, do poorly, have no time for, or forget to do. They try to eliminate discordance from their supervisor's world

One pharmacist learned early that her new manager hated doing third-party claims. They piled up for weeks, because the manager dodged the work. Rather than ignore the situation—which is so easy to do—this pharmacist asked if she could take over the preparation of third-party claims. Because there was little time during the day, she started arriving about an hour before work and staying late when necessary. In a very short time, the claims were current, the pharmacy's cash flow was much improved, and the error rate—which had been very high because the manager gave little attention to a job he disliked—was reduced by more than 90%. She then trained a clerk to do the claims.

The same pharmacist next noticed that the manager virtually exploded when the vial drawers were empty, there was no change in the safe, or no paper in the computer printer. Rather than ignore these aggrava-

tions, she started making a list of all the things that "set the boss off." She then systematically eliminated all of them by first doing the work herself, then eventually assigning each task to appropriate pharmacy personnel.

This same pharmacist did not stop here. She organized purchasing so salesman would visit by appointment on a scheduled day, rather than just wandering in when a physician was not available, reorganized the prescription department to reduce the number of steps needed to handle more than 75% of all prescriptions, and designed the work schedule so all three pharmacists could have an extra day off each month.

A rare pharmacist? Maybe. A valuable pharmacist to her employer? Absolutely! Within two years this pharmacist was made the manager of a new pharmacy opened by her employer, while a pharmacist with five years more experience failed to get the nod.

Successful professionals exhibit *employment matu*rity. They realize that they are not always going to get their way; that some projects will fail because there is

# "If one views his problems closely enough, he will recognize himself as part of the problem"

not enough money, no one else is excited about them, or they are just bad ideas; and they recognize that "workers" and "bosses" are not on different teams, they are just responsible for different areas of the organization. They stick to issues not personalities.

The mature professional appreciates that everyone, including the manager, has bad days or even bad weeks when they are at war with themselves and the world. They recognize that short tempers, overly sensitive reactions, and inconsistent behavior everyone experiences at times are not aimed at anyone, least of all, the valuable, reliable, mature professional. They learn to accept the human condition in all employees, patrons, and suppliers and never take it personally.

Successful people are good *leaders*. They learn to rally people around them and appreciate that a leader has to take a stand on the issues. They recognize that trying be be all things to all people—some people call this being two-faced—is not being a leader. Leaders know that straddling the fence on an issue—in effect, trying to please everyone—is the worst place to be. Leaders take a stand based on careful assessment of their convictions, and not always the popular one.

As a leader, it is inconsistent to cry foul to other employees when someone is fired for insubordination, then in the next breadth, encourage the manager to get tougher with employees. A leader does not wait for someone else to correct a wrong, set the record straight when rumors abound, or stand up for what is right. And standing up for what is right in pharmacy includes standing up for what is first right for the patient and for

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pharmacy. If that means being at odds with everyone else, that is what being a leader is all about.

Successful professionals also have *vision*. They see opportunity where others see only problems. They welcome a challenge and are at their best when the situation seems most hopeless.

A good example of this principle resulted from a pharmacist being dismissed by a pharmacy with a large nursing home business. As a single parent in a local marketplace glutted with pharmacists, it would have been easy to wallow in self pity. Rather than give up, this pharmacist recognized this is still a free country and decided to turn misfortune into opportunity.

Within a relatively short time, this young pharmacist turned what could have been a disaster into a successful nursing home pharmacy. And did so by attracting the accounts of the former employer, and creating one of the first nursing home-only pharmacies in the Midwest.

Another turned near disaster into success for all concerned. Frustrated by his manager saying that the landlord was going to double the rent, this pharmacist did a little research and found that shopping centers in the area were losing tenants whenever rents went up more than 10% at a time. He also went to see all the other businesses in the shopping center and found out that most would have to leave if the announced increases were effected. Armed with this evidence, this enterprising pharmacist went to see the landlord. In a non-threatening presentation designed to show the landlord what would happen in the long run if he insisted on such a steep increase, the pharmacist was able to convince the landlord to rescind his decision in favor of a 10% increase.

Seeing opportunity where others see only problems is often accompanied by unbridled optimism and tenacity. On the other hand, successful people realize that they will not always be successful nor prevail on all issues. Even more, they recognize that the most successful people in the world have faced adversity and have failed miserably at times. But still they try!

They are the ones that listened on July 20, 1969 and heard more than the silence of the Moon as we took "one small step for man and one giant step for man-kind."

#### Bargain Two-Week Journey Through "SCENIC EUROPE"

October 10-25, 1983

#### UNIVERSITY OF MARYLAND PHARMACY SCHOOL RECEIVES TWO GRANTS

A first-time funding grant for a recruiting project has been awarded to the School of Pharmacy of the University of Maryland at Baltimore by Smith Klein Beckman, according to Dr. David A. Knapp, associate dean for graduate education and research. In addition, a grant of \$11,000 has been presented by the Maryland Chapter of the American Heart Association to Dr. David S. Roffman and his associate, Dr. Esam El-Fakahany, for a research project on beta receptor activity in intermittent dobutamine therapy.

The Smith Klein Beckman support, given to pharmacy schools for projects in teaching, student recruiting or career counseling, will enable the School to highlight four community outreach programs to stimulate and increase awareness of pharmacy as a professional career. These are: the Professional Experience Program, in which students work in community pharmacies under the supervision of professional pharmacists who are also members of the School's part-time faculty; the SCODAE (Student Committee on Drug Abuse Education) project, an ongoing educational initiative in Maryland's junior and senior high schools, with student volunteers visiting classrooms to talk about drug abuse; the Maryland Poison Center, a hotline and educational service for poison information, completely staffed by pharmacists; and Elder Ed, a continuing drug education program for the elderly.

Overall project director for the Smith Klein grant is Dr. Ralph Shangraw, assisted by Marvin Oed. Project coordinator is Dr. Grady Dale, who also coordinates minority recruitment efforts for both the Pharmacy and Medical Schools.

Dr. Roffman's project, an assay of the heart's beta receptors through investigation of white blood cells, hopes to determine the patient's tolerance for dobutamine, a beta stimulant. The drug is being successfully administered on an outpatient basis to persons with severe heart failure, using a pump initially designed for dispensing insulin and cancer drugs. Dr. Mark Applefeld, the University Hospital cardiologist who first suggested the pump for dobutamine users, is a consultant on Dr. Roffman's project.

We have done so much with so little for a long that everyone thinks we can do anything with nothing forever.



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# USP—The Cornerstone of Pharmacy Practice

by Joseph G. Valentino, J. D.

I'm sure each of you has been notified of the National Association of Retail Druggists' resolution opposing these requirements and the NARD activities in this area. I would like to explore this question, first from the legal, then the political perspective. First of all, what are some of the arguments advanced in support of the proposition for removal of the mandatory purchase requirement?

- (1) The USP is no longer useful to today's practicing pharmacists, and pharmacists would rather have more relevant texts.
- (2) Pharmacists oppose required *reference* texts and should have professional discretion in selecting their reference texts.
- (3) Requiring specific references is not necessary to assure public protection.

At first glance, these arguments may be appealing. However, when one examines them closely, either the merit of the argument fades or one can appreciate the adverse consequences such a movement may have on the profession of pharmacy.

First of all, let's clarify the terminology. What laws are we talking about and what do they say?

The laws involved are either statutes passed by state legislatures or rules and regulations promulgated by pharmacy boards under authority delegated to them to require minimum equipment for pharmacies. These laws require pharmacies, not pharmacists, to have on hand the USP. The laws are designed to protect the health and safety of the public, not the pharmacy. I'm sure I do not have to remind this audience that drug products dispensed or sold in each pharmacy are subject to federal as well as to state laws, and that the USP and NF are designated as official compendia by the federal Food Drug and Cosmetic Act, as well as state food and drug acts.

USP and NF, the official compendia, contain standards for drug quality, strength, purity, packaging, and labeling enforceable under these acts. USP and NF standards are applicable not only at the manufacturer's level but up until the product is dispensed. Violation of these laws can subject a pharmacist to criminal penal-

This Speech was delivered to the National Council of State Pharmaceutical Association Executives at its meeting in April, 1983 in New Orleans, Louisiana

ties, and violation of these statutes may be used as evidence in a civil liability case.

A consumer has a right to expect that the medication dispensed to him or her complies with applicable legal requirements. By requiring the pharmacy to keep the compendia on hand, the public is assured that the pharmacists in that pharmacy have readily available to them the applicable legal requirements. In this regard, many states require pharmacies to have on hand a copy of the state laws governing the practice of pharmacy within that state. The USP—NF are, in a sense, extensions of your pharmacy and Food and Drug laws. It makes little sense to me to require pharmacists to have on hand a state document which in "legalese" tells pharmacists they cannot dispense an adulterated drug or that a drug must not be misbranded, or must be stored or packaged properly, or that pharmacists must use good pharmaceutical practice, and then not require the USP-NF text that tells pharmacists what in scientific, definitive terms is the adulteration or misbranding of a drug, what is proper packaging, and what does constitute good pharmacy practice.

It is also of benefit to the pharmacists practicing or employed in the pharmacy, as it is not likely that a pharmacist would be successful in an action brought by a state board or by a consumer in a civil liability action if the pharmacist claimed that he or she was ignorant of current requirements because the pharmacy in which he or she practiced or did not have USP-NF available at the time he or she filled the prescription.

What about the argument that pharmacists should be allowed professional discretion in selecting their reference texts? The argument is not germane. The USP— NF are not mere reference texts. The simple fact is that there are no other texts that contain the information. There are NO substitutes. In this modern age of constant change no other text even attempts to keep up with and abstract USP and NF requirements as did Remington's Practice of Pharmacy many years ago. As a matter of fact, Remington now is retitled as Remington's Pharmaceutical Sciences and contains the caveat, "This text is not intended to represent, nor shall it be interpreted to be the equivalent of or a substitute for the official United States Pharmacopeia (USP) and/or the National Formulary (NF). In the event of any difference or discrepancy between the current official USP or NF standards of strength, quality, purity, packaging and labeling for drugs and representations of them herein, the context and effect of the official compendia shall prevail."

This is a very important point: statutes require our drugs to comply with compendial specifications—not what someone else says the compendial specifications are. A violation of USP requirements may be a violation of a safety statute. Such a violation may be a crime; or in a civil action, evidence of negligence or even "negligence per se."

Other texts may or may not be evidence of a standard of care, but USP is the standard of care required.

I entitled my paper, "USP—The Cornerstone of Pharmacy Practice." I did this with two perspectives in mind—the first, legal, and the second, political. Let's look at it from the practical-legal perspective first. I handed out a short quiz before my presentation, designed to give you some concrete examples of the unrecognized importance of USP to every day practice.

Let me start out with a very simple premise, namely, when a pharmacist receives a prescription he is supposed to dispense the same drug called for in the prescription. If he doesn't, the dispensed drug is misbranded. But, what is the *same drug*?

Look at question 4 on page 3. This actually happened in Virginia. A pharmacist (with the patient's consent) dispensed generic phenytoin sodium capsules under his state's substitution law for Dilantin Capsules, which the doctor had prescribed—one day after the USP requirement went into effect. After all, as his attorney told me over the phone, the pharmacist said, "When I went to school, phenytoin capsules were phenytoin capsules." Unfortunately, the patient convulsed and was

# **USP** Questionnaire

- 1. A patient presents a legitimate prescription to you (a registered pharmacist) on November 15, 1982 for Quinidine Sulfate Capsules 5 grains #30 Sig. 1 Capsule t.i.d.
  - (a) The only bottle of Quinidine Sulfate Capsules on the shelf has an expiration date of November 1982. Should you dispense these capsules from this bottle?

Yes \_\_\_\_\_

Where is the legal authority to determine what day of November is the day of expiry?

(b) The bottle of Quinidine Sulfate Capsules you have on the shelf has a labelled strength of 300 mg per capsule. The 5 grains the doctor ordered equals 322.5 mg. Can you legally fill this prescription with your stock?

Yes \_\_\_\_ No \_\_\_\_

Where is the legal authority to deviate from the exact labelled amount in the act of dispensing, and by how much?

(c) The bottle is labelled "Quinidine Sulfate Capsules-Not USP" and gives the reason for its non-compliance. You have been told by the company representative that there is no therapeutic difference. The physician did not indicate specifically on the prescription whether or not the USP article was wanted. Can the capsules be dispensed?

Check one:

Yes \_\_\_\_\_ No \_\_\_\_

Where is the legal authority for the manufacturer to deviate from USP tests and/or standards? What obligations does that place on the prescriber and/or dispenser?

(d) The wholesaler didn't send you the plastic prescription vials you ordered and you are now out of stock. You have some cardboard boxes that you use for suppositories. You check with the patient and she authorizes the dispensing in a non-child resistant container. Can you now dispense the capsules, properly labelled, in the cardboard box?

Yes \_\_\_\_\_ No \_\_\_\_

Where are the tests and standards for containers that apply to the pharmacist (or nurse or physician) in dispensing that drug product?

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2. You are given a second legitimate prescription for Propoxyphene Hydrochloride and APC Capsules, 65 mg. No strength for the APC is given. What must (and/or should) you do?
(a) Call the physician pointing out this omission and ask that he specify all ingredient strengths;
(b) Use your discretion to select either of the two manufacturer's products you have, even though they vary in the amounts of the APC components.
(c) Fill it with a product containing 65 mg of Propoxyphene HCL, 227 mg of Aspirin, 162 mg of phenacetin, and 32.4 mg of caffeine.
What is the legal basis for your answer?
3. Your pharmacy is serving a nursing home and you prepackage the medication in blister packages containing 30 dosage forms each for use as patient packages and/or as ward stock packages. You place an expiration date on the card, based on your judgment of the stability of the particular medication, usually 1 to 6 months. The nursing home administrator requests that you use the original manufacturer's expiration date so he can have a longer time to return the drugs to you if unused (your state law allows such returns). He indicates that he has talked with three other pharmacists in the area who agree to do this and he threatens to terminate your pharmacy's services unless you comply with his request.
Where is your authority to determine an expiration date for the packages you dispense?
4. On July 2, 1980 a pharmacist receives a prescription for Dilantin Capsules (100 mg). With the patient's consent, he is allowed under his state law to substitute a less expensive brand. The physician did not disallow such substitution. The pharmacist after receiving the patient's permission, fills the prescription from a bottle labelled 'Phenytoin Sodium Capsules, USP (100 mg), Exp. date 12/83,' purchased a year earlier. The pharmacist knew nothing except that which was provided with the product's labeling and as far as he knew the product met all of the standards for Phenytoin Sodium Capsules.
The patient suffers convulsions and brings suit against the pharmacist. Should the pharmacist be liable? Discuss.
Why?
5. A bottle of medication is labelled "store in a cool place." The temperature in your pharmacy is kept at 68° to 72°F year-round, even when the store is closed. You therefore decide to keep the medication on an open shelf. A state inspector informs you that the article must be kept in a refrigerator. Who is right?
(1) you are
(2) the inspector is
(3) neither
Why?
6. You receive a prescription for an unusual but legitimate strength of Atropine Sulfate Ophthalmic Solution, 10 ml, which you must compound. Prior to dispensing the prescription, you must seal the container or the carton so that the contents may not be used by the patient without destroying the seal.
True False
Why?
7. Mr. Jones, an elderly patient, has to receive injections of two different medications (both recognized in the USP) on different days. He does not trust the visiting nurse to read the labels. To help him avoid confusing the medications he asks that you add a dye to one of the injections.  May you comply with his request?
Check one:
Yes, coloration of a dosage form is within a pharmacist's discretion.
Yes, but only if an FDA certified color for use in drugs is used.
No, since you would be breaking the manufacturer's seal.
No, coloring agents may not be added to injections just to color them None of the above.

injured and brought suit. The product the pharmacist had dispensed was actually Prompt Phenytoin Capsules, not Extended Phenytoin Capsules that Dilantin now was. The attorney's departing words as he hung up the phone were, "We're going to have to settle this one [out of court]."

In other words, it is the USP monograph which basically defines when a drug is the same drug.

Let's go to question 1, part C. When a physician writes for an official drug, the law states he wants the USP article. He doesn't have to say USP. If he writes for a brand that is not USP, or indicates "not USP" on the prescription and then writes out what he wants instead, then the non-USP article can be dispensed. The same is true when the pharmacist orders from a wholesaler or manufacturer. He says, "I want three bottles of 100 Phenobarbital Tablets," not "Phenobarbital Tablets with a potency of 94 to 106%," which disintegrates or dissolves within X minutes, with a certain content uniformity, etc. The USP serves as a dictionary, it defines our drugs. It not only defines the drug but the terms we use in our practice, and terms used between health professions. Let me emphasize the point further. What about the pharmacist in question 1? Does he take a chance and dispense an outdated drug, or does he unnecessarily tell the patient to come back while he orders a "fresh" supply, or doesn't he care?

USP defines the expiration date in terms of the month and year. (It's the last day of the month.) USP defines what a cool place is in question 5 (the answer is, neither), and USP defines what Propoxyphene and APC Capsules 65 mg are (the answer is C).

Not only must a pharmacist dispense the drug called for in a prescription, he must also dispense it in the strength called for. Now, we all know we don't live in a perfect world, and that a bottle labeled XYZ tablets, 300 mg per tablet, doesn't really contain 300 mg in each tablet. What if a drug didn't work and the patient had the tablets analyzed and found there was only 280 mg in each tablet? How would the pharmacist defend his dispensing such a product if there were no public standards with tolerance limits encompassing 280 mg? What about the pharmacist in question (1)(b)? Is he supposed to stock a double inventory of Quinidine Sulfate Capsules? Five-grain capsules for doctors who write apothecary and 300 mg capsules for physicians who write in metric? What about every other drug which has been traditionally prescribed or formulated in the apothecary system? What will his defense be if a patient suffers a heart attack and sues because the physician prescribed 5 grains or 322.5 mg of Quinidine Sulfate and the pharmacist dispensed the "wrong" 300 mg strength? I suggest you look at the inside back cover of USP-NF for the answer.

We all know that pharmacists should package drugs in the proper container, tight or well closed, depending upon the drug. What is a "tight" container? When the drug doesn't work, and the manufacturer's retained samples check out O.K., and the injured patient looks around to sue someone, How would the pharmacist prove he packaged it properly? And who defines light resistance? Just because a glass has some color in it doesn't mean it will repel damaging light bands.

Question 3 is also an actual occurrence that happened—three practicing pharmacists in Arizona, who I am sure would tell you they never open the USP. Unfortunately, they weren't really practicing pharmacy, but were just blindly repackaging drugs without any scientifically based perception of what they should be doing. I'm sure any technician can read an expiration date on a bottle label and transfer it to another container. The pharmacist who later called to thank me for helping him retain his nursing home account frankly amazed me with his knowledge of the USP and what his professional responsibility was.

Thus from the legal perspective, much of how we practice, or should be practicing, is derived from the USP. Unfortunately, we take this for granted. We fail to realize that times change and that USP keeps up with the times. It seems to me that it may to be a flaw in our educational system. We just aren't teaching our students this aspect of the law any more. Recently, I sent this questionnaire to six pharmacy schools with a request that they administer it to their students in pharmacy law. I hope to develop a program to help pharmacy law teachers to start teaching our students what's in the USP and what it means to them on a day-to-day basis. It is no wonder pharmacists say they don't look in the USP when they are never taught to understand what's in there and to appreciate its significance to Pharmacy practice.

From the political perspective, how are the compendia a cornerstone of the pharmacy profession?

We are the only country in the world that allows the pharmaceutical and medical professions to control the quality of the articles used in their practice! In all other countries, this is done by the government. Since the Pharmacopeial Convention is a nongovernmental organization and does not get tax money, the funds received by sale of the compendia have to support the operation. But aside from helping to fiscally ensure the viability of the system, I believe it is important to pharmacy that pharmacy as a profession maintain its interest and involvement in compendial affairs in one way or another. The USPC is a carefully balanced organization from both an internal and external perspective. It serves as a neutral party between the government, the industry, and the professions. If individual pharmacists don't support USP and lose interest in the USP, similarly their associations will, with the passage of time, lose interest. If the pharmacy profession is no longer a viable political force upon or within the USP structure, the USP will be left in a position solely between government and industry forces. Whether the Congress, either at the instigation of industry or the government or consumer activists would long allow it to remain in this position

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as a nongovernmental institution is questionable.

If this occurs pharmacy, would be giving up a valuable resource.

The nongovernmental compendial tool would be lost to the profession, and with it, an important capability of the profession to solve its own problems would be lost. It seems to me that the emphasis of our pharmacy associations has shifted to the defensive. Pharmacy seems content to a great extent to let government solve its problems and then react to the legislative or regulatory initiatives, rather than attempting to solve pharmacy's problems before they reach this stage, constructively, from within the profession.

Let me give you some examples. Do you really think we would have this mess of state laws dealing with product interchange with their negative formularies, positive formularies, etc. If the profession had developed good dissolution standards to that bioequivalency would have been a non-issue? Scientifically, with compendial dissolution requirements being instituted for practically all oral solids, it is becoming a non-issue now. But politically it will be with us a long time because pharmacy turned to the government to solve its problems.

Another example. It was the USPC that started the Dispensing Information project in order to help provide a legal basis for clinical pharmacy practice. Let me refresh your memory. To put it mildly, the program was not greeted with overt enthusiasm from the national associations of pharmacy. Yet when the PPI regulation was brought forward by the government, the one creditable, concrete professional program which the professions could point to was the USP DI program. I am cognizant that there are many associations who have taken political credit for its subsequent withdrawal, but do you really believe the government could have politically withdrawn the regulations if there were no visable alternatives to point to?

Years ago, a number of state laws contained provisions that pharmacists should not dispense "secret formulations." I'm sure you remember the situation to which this was directed—that where a physician would write for a preparation that only a particular pharmacist could interpret and dispense. You probably can still find these relics in some law books. Yet stop to think, aren't most of the drugs dispensed today by pharmacists "secret formulations?" Pharmacists are not privy to formulation information to help them make their determinations.

The simple fact is that today's pharmacist, for the most part, accepts the products prepared for him by the pharmaceutical industry. It seems that pharmacists are now willing to go one step further, and are ready to admit publicly and to our legislatures that they no longer even look to determine what the standards or specifications for the products they purchase or dispense are.

The one thing the pharmacy profession has had over all other health professions is its knowledge about the drug product itself. The presence of the USP and NF in pharmacies was visible evidence of drug product knowledge and concern. No other profession evidenced this. Yet, this basic aspect of the profession seemingly is being given up. Why? To save a \$20 a year business expense?

In the future, when pharmacists will seldom be needed to count or pour or select a product container because of the prevelance of unit-of-use packages, when the computers are able to flash up on a screen to a technician whether or not a dose is proper or whether there is a potential adverse reaction and the prescription should be altered or not filled, when third party payors seeking to reduce costs demand justification for the involvement of a high-salaried pharmacist in the common dispensing transaction, pharmacy will need every scientifically-based argument it can muster.

If pharmacists and the profession really believe the USP is not relevant to pharmacy practice, then the proper solution is how do they, the professions, make it relevant. The burden is on you. Let us not take a myopic approach advocated by some leaders based on limited perceptions of some of their members. We expect our pharmacy leaders to be perceptive and we expect our leaders to lead us out of the woods, not to take courses based on superficial analyses. You don't have to agree with everything I have said today. But, before this historical pharmacy cornerstone is removed, a more thorough analysis of the affects of its removal on the foundations of pharmacy should be made. Once removed, it will never be put back. The profession may find itself wasting its resources patching cracks and buttressing its foundations with all kinds of temporary expedients for decades to come. Or the whole structure may come tumbling down.

# calendar



Sept. 30 (Sunday)—NARD—Convention Las Vegas, some special airplane fares may still be available limited space at \$240.00

Oct. 10-24—MPhA Fall European Trip. Watch for details.

Oct. 30 (Sunday)—MPhA Dinner Theater at Toby's—Barnum Story of the Circus. Call for reservation now—we usually sell out by August.

Nov. 13—Alumni Association Dinner Meeting.

Every Sunday Morning at 6:30 a.m. on WCAO-AM and 8:00 a.m. on WXYZ-FM, listen to Phil Weiner broadcast the Pharmacy Public Relations Program "Your Best Neighbor," the oldest continuous public service show in Baltimore.



The Alumni Association Graduation Banquet was held on Wednesday May 18, 1983 at the Martins Eudowood and saw Harry Bass installed as the new President.



Charles Tregoe, (left) receives the Honored Alumnus Award from the President of the Board of Pharmacy, Bernard Lachman (right).



he Annual Alumni Graduation Banquet serves as a class reunion or those who have practiced as Pharmacists for 50 years.

This page donated by District-Paramount Photo Service.



A happy Dean William J. Kinnard Jr., (right) receives a donation from out-going Alumni Association President Angelo Voxakis (left).



1983 Class President Scott Ceccorulli makes a response following the introduction of class members to the Banquet by Dean Kinnard.



At the April APhA Convention in New Orleans, President Milton Sappe (Second from the right) and the Virginia Pharmaceutical Association President, Henry Addington (Far Right) enjoyed a reception for Virginia Governor Charles S. Robb (second from left) and friends.

Pictures courtesy Abe Bloom — District Photo

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Any person obtaining a controlled substance by use of a forged and/or stolen prescription is in violation of federal law and upon conviction may be fined up to \$30,000 and/or imprisoned for up to 4 years.

# **ABSTRACTS**

Excerpted from PHARMACEUTICAL TRENDS, published by the St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor and Leonard L. Naeger, Ph.D., Associate Editor

#### **ASPIRIN:**

Patients undergoing elective surgery for removal of varicose veins were given 40 mg of aspirin prior to surgery to determine if that dose would selectively inhibit prostaglandin synthesis in the platelets without affecting its synthesis in the vascular wall. Results suggest that low doses of aspirin inhibit the synthesis of thromboxane A-2 in the platelets while sparing the enzymes in the vessel wall. This produces a more effective antiplatelet effect. *Br Med J*, Vol. 285, #6351, p. 1299, 1982.

#### **NAFCILLIN:**

Many penicillin derivatives can have their half-lives increased by concomitant administration of probenecid (Benemid). Scientists have studied this phenomenon with great intensity and feel that in the case of Nafcillin, probenecid not only reduces the secretion of the penicillin by the kidney, but also reduces non-clearance of the drug. Further studies will be conducted to determine if this is true of other penicillin and cephalosporin derivatives. *J Clin Pharmacol*, Vol. 22, #10, p. 482, 1982.

#### PCP TOXICITY:

Phencyclidine (PCP) is a hallucinogen which can produce confusion, gross incoordination, and numbness. This represents a psychiatric emergency and thus ways to treat it have been explored. A new method seems to be of value in reducing toxicity of PCP. It consists of acidifying the urine and using a diuretic to increase removal of the substance from the body. *Clin Pharmacol Ther*, Vol. 32, #5, p. 635, 1982.

#### **RAYNAUD'S PHENOMENON:**

Over 100 years ago Raynaud's phenomenon was described as a group of symptoms including coldness in the hands which was thought to be a result of reduced peripheral blood flow through that area. Various treatments have met with varied success, but a group of 17 patients with this problem were treated experimentally with the slow calcium channel blocker nifedipine (Procardia). Twelve of those treated with this agent reported a reduction in both frequency and severity of this phenomenon. *Lancet*, Vol. II, #8311, p. 1299, 1982.

#### **OXPRENOLOL:**

The beta-adrenergic antagonist, oxprenolol, was administered to patients who had just experienced a myocardial infarction secondary to coronary heart disease. It was determined that low-dose oxprenolol was of value in preventing a second attack only if therapy was instituted soon after the original infarct. *N Engl J Med*, Vol. 307, #3, p. 1293, 1982.

#### CHYMOPAPAIN:

A new drug may soon be released for use in treating patients with herniated discs. Chymopapain (Chymodiactin) is administered intravenously and has been found to benefit patients in a double-blind study. Another agent, collagenase (Nucleolysin) is also being tested for use in patients with this condition. *FDC Rep*, Vol. 44, #44, p. T&G-8, 1982.

#### DIOXIN:

Dioxin, a contaminant found in the herbicide, Agent Orange, has been said to be the most toxic chemical known to man. It is also called tetrachlorodibenzodioxin (TCDD) and is essentially non-toxic without the chlorine substitutions. It is often an unwanted by-product in the synthesis of chlorinated phenols, a group of chemicals with a wide variety of important uses. Direct contact with high concentrations of dioxin can produce chloracne within 4 to 8 weeks after exposure. The condition, characterized by open comedones with less inflammatory response than acne vulgaris, is often found in areas where acne vulgaris does not occur, e.g. the pinna of the ear. Porphyria cutanea tarda is sometimes seen. It may appear to produce fragility of the skin, blisters, hyperpigmentation and hirsutism. Dioxin is a potent inducer of delta aminolevulinic acid synthetase, the enzyme responsible for initiating the first step in the chemical synthesis of porphyrins. Additionally, liver damage with resulting hepatic necrosis, bleeding tendencies, and diarrhea can also be seen in patients exposed to high concentrations of the agent. Dioxin contamination is being found with increasing frequency. Low concentrations are not likely to be troublesome but some have suggested the carcinogenic activity of the substance may not express itself for years after exposure. No information exists to substantiate this fear. Dioxintainted fish have been taken from the lakes and rivers in southern Michigan indicating that the agent may be spread more universally than originally suggested.  $M\epsilon$ Med, Vol. 80, #3, p. 127, 1983 and Am Med News, Vol. 26, #11, p. 8, 1983.

#### **REYES SYNDROME:**

In 1963, Reye and co-workers reported a syndrome of acute encephalopathy associated with fatty degen eration of the viscera. It is now called Reye's syndrome and usually follows a viral infection. It is most commor in children aged 5 through 15 years. Since some symp toms of Reye's syndrome are similar to those produced by salicylate intoxication, e.g., nausea, vomiting, hep atotoxicity, elevated serum transaminase levels, hypo'

glcemia, hyperventilation, etc., investigators searched for an association between the two conditions. Some people feel this association has been documented, but others, including the authors of this article, feel the retrospective studies thus presented to not show the relationship to be as clear as others interpret it to be. They urge that other studies be conducted to determine if such an association does exist between aspirin use and Reye's syndrome. *JAMA*, Vol. 249, #10, p. 1311, 1983.

#### **BALDNESS:**

Approximately 80% of the patients receiving the antihypertensive agent minoxidil (Loniten) show signs of excessive hair growth. In 1977, a special topical formulation of minoxidil was prepared for use in thinning or balding men. On February 14th of this year, a one year prospective study was initiated to determine the effectiveness of this agent in stimulating hair growth. Needless to say, many are waiting the outcome of this evaluation. *FDC Rep*, Vol. 45, #8, p. 5, 1983.

#### **ORAL CONTRACEPTIVES:**

The use of oral contraceptives for over 20 years has led investigators to draw some conclusions about the use of these preparations for long periods of time. Various investigators have used large population samples to obtain data which suggest the use of these agents will not only protect women against ovarian and endometrial cancer, but they found no association between oral contraceptive use and breast cancer. The study will continue to add more statistical relevance to the data. *JAMA*, Vol. 249, #12, p. 1596, 1600, 1624, 1983.

#### CALMODULIN:

Calmodulin is required for smooth muscle to contract, but its role in cardiac and skeletal muscle is obscure. Cultured rat cardiac cells were found to have decreased contracility when trifluoperazine, an antipsychotic agent which has been found capable of inhibiting the intracellular effects of calmodulin, was added to the media. Thus the role of calmodulin in skeletal and cardiac muscle may be more extensive than is currently thought. *J Clin Invest*, Vol. 71, #3, p. 518, 1983.

#### **BIOLOGICAL VARIATION:**

Anti-inflammatory tests have long been conducted in the hindpaw of the rat as a standard way to evaluate new agents and compare them to currently used agents. The volume of the hindpaw reflects the degree of swelling as well as the effectiveness of the anti-inflammatory agent being tested. Investigators in the United Kingdom have found that the volume of the rat hindpaw varies over a biological cycle of 7 days. They suggest this should be taken into account when interpreting data dobtained by this method. This is the first time a cycle of 7 days has been found in mammalian systems. Journal of Pharm Pharmacol, Vol. 35, #3, p. 186, 1983.

#### **NITROGLYCERIN OINTMENT:**

Nitroglycerin is a potent vasodilator when applied topically. Patients who were to be given intravenous infusions were rubbed at the proposed site of injection with topical nitroglycerin ointment prior to introduction of the cannula. this procedure was found to facilitate cannulation without producing any side-effects or discomfort to the patient. *Lancet*, Vol. I, #8320, p. 332, 1983.

#### STATUS EPILEPTICUS:

Patients experiencing attacks of status epilepticus require immediate attention in order to reduce mortality. Diazepam (Valium) injections have been used to decrease the severity of these episodes, but the success rate is approximately 76%. Lorazepam was under similar circumstances and produced a success rate of 89%. The incidence of side-effects was similar for both agents. Thus it appears that lorazepam may be preferred in patients experiencing status epilepticus. *JAMA*, Vol. 249, #11, p. 1452, 1983.

#### DOXPICOMINE:

A new centrally acting analgesic, doxpicomine, was administered postoperatively to patients and results compared to those obtained in patients given either morphine or meperidine (Demerol). There was no significant detectable difference in the therapies. The addiction liability of the new drug will now be studied in order to determine of the likelihood of abuse and addiction is less than that produced by the older agents. Much work is still needed before doxpicomine can become part of the standard medical armentarium. *J Clin Pharmacol*, Vol. 23, #1, p. 44, 1983.

#### RENIN:

The role of renin has long been studied, but recent data indicates that renin may be produced physiologically from an inactive precursor secreted by the kidney. It is estimated that over half of the renin concentration found in the plasma is in the form of the inactive renin precursor. This substance can be activated to form renin by acidification of the plasma or by treatment with a proteolytic agent. Inactive renin is a larger molecule which seems to be converted to renin by cleavage of a peptide bond. *J. Clin. Invest*, Vol. 71, #3, p. 506, 1983.

# DEXTROAMPHETAMINE-MORPHINE INTERACTION:

Amphetamine has been used to enhance the analgesic effect of morphine, and additionally, offset the undesirable respiratory depression produced by the opiate. Since there have been conflicting results published about this combination, a closely controlled trial was designed to study the interaction. Results suggest that at low doses, the respiratory depression produced by the narcotic can be effectively controlled by the stimulant, but that at higher doses, antagonism is incomplete. *J Clin Pharmacol*, Vol. 23, #1, p. 44, 1983.



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ou may be like Jack Horner and "Chisel" a plum and think you're a wonderful guy, but the man in the glass says you're only a bum you can't look him straight in the eye.

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August, 1983 VOL. 59 No. 8



# Convention Report Issue Pictures

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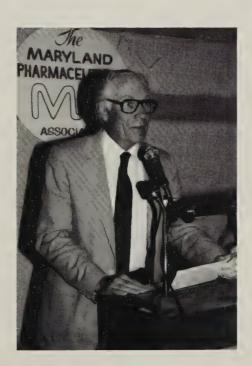
Ladies, Distinguished Guests, Fellow Pharmacists:

It is a pleasure to be elected your President for the year 1983. Thank you very much.

I am well aware of the excellence in leadership that the association has enjoyed over the years. I promise to give this office my best effort.

Some years ago when I first became active as trustee in our association, I was very much impressed by the cooperation of its members, community chain, clinical consulting Pharmacist, educators all fascists of the profession of pharmacy working in concert to solve the problems that face our profession and planning for the future.

It is my wish as President, to promote the spirit of cooperation with the hope that it will manifest itself and lift our profession to the highest level of professional accomplishments.



Thank You,

William C. Hill, P.D. PRESIDENT

AUGUST, 1983 3

# President's Report

#### President Milton Sappe

(Delivered by the out-going President to the House of Delegates meeting at the June, 1983 Annual Convention in Ocean City, Maryland.)

As we begin the first year of our new century, I would like to report that your Association is in good health and that the prognosis for it's long life is encouraging.

Last year we reached a record number regarding the membership list. When we decided to give ourselves the P.D. designation and the Association issued P.D. certificates it certainly helped our membership drive. This year's Committee thought that if we could retain 90% of our membership, this would be a successful achievement that would result in our second largest number of members in our history. The Membership Committee will accomplish this and has an outside chance of reaching last years record numbers. Remember they also worked under a large handicap because Charles Spigelmire, our membership field agent, was not around to help. That might be worse than the Colts not signing John Elway.

Our financial condition is good and is being watched over by our Treasurer, Melvin Rubin. We conserved our assets and kept our expenses down. Dave, through hard work, made the *Maryland Pharmacist* come in closer to budget. Yet, as each of us knows money does become a problem. Expenses go up while sources of revenue may diminish or even dry up and it is not inconceivable that in the next few years some changes might have to be made.

All our committees met and I would like to thank all those who served and gave help and time to their Association.

I would like to single out just one committee, a new committee, which you will hear more about later. Last year the House of Delegates passed a resolution to aid impaired pharmacists. This is being done under the co-chairmanship of Harry Finke and Tony Tommasello. They have started and seem to be on the way to doing what I am sure we know must be done, helping our fellow pharmacists and our profession with a problem that is all too common with many professions today.

This year for the first time your Board attended a retreat to discuss a long range overview of our Association and there was a general consensus among those attending that it would be wise for us, as an Association, to develop a well thought-out master plan for our future. Thoughts could be given to where our members will come from in future years, how our finances will change, where will funds be garnered, and what will be the roll of the Association in filling the needs of its' members. Change is today's byword and your Association must be ready. In conjunction with this idea, your committee to rewrite the constitution met and came to the conclusion that much has to be done to bring the constitution up to date. It is not hard to see these two ideas meshing together over the next few years to give us a stronger and more useful Association.

Finally, my thanks to the Association and all its members, the committees and their chairmen, and especially to our Executive Director for helping me and the Board to complete a successful term.



Milton Sappe, out-going MPhA President summarizes the accomplishments of the Association during his year in office at the Annual Banquet.



Betty Sappe received the "Pharmacists Mate" Award from Richard Plotkin of the Geigy Company.



George Skalski, President of the District of Columbia Pharmaceutical Association brings greetings to the first session of the Convention.



Charles J. O'Connor, President of the Delaware Pharmaceutical Society, also welcomed Pharmacists and friends to the first joint convention.

# O1st Convention Gets Rave Reviews It is the First Combined Regional Pharmacy Meeting

All Convention Photography Courtesy of Abe Bloom and District/Paramount Photo



Ocean City Mayor Harry Kelly dropped in on the Convention to make sure Pharmacists were enjoying themselves in his resort city.



Steve Farmer from Roche Laboratories led the C.E. Workshop on "Patient Education in Action."



Over 300 people attended the joint crab feast and square dance at the Berlin, Maryland Fire Hall.

# ANNUAL REPORT OF THE MARYLAND BOARD OF **PHARMACY** 1982-1983

In compliance with the provisions as set forth in the Health Occupations Article Section 12-205 of the Annotated Code of Maryland, this report is submitted to the Honorable Harry Hughes, Governor of Maryland and to the Maryland Pharmaceutical Association. This is the eightieth report to the Governor and the seventieth report to the Association. The report covers the activities of the Maryland Board of Pharmacy for the fiscal year ending June 30, 1983. This report is also being submitted to the Secretary of Health and Mental Hygiene, the McKeldin Library of the University of Maryland, the Enoch Pratt Free Library, the Department of Legislative Reference, the Hall of Records, and the State Library.

#### **MEETINGS**

During the year the Board held sixteen meetings, six of which were held at the School of Pharmacy of the University of Maryland, for the purpose of conducting examinations for registration of pharmacists.

#### **OFFICERS**

Bernard Lachman was elected President and Paul Freiman was elected Secretary-Treasurer of the Board.

#### **PERSONNEL**

The staff consists of Roslyn Scheer, Executive Director; Margaret Lloyd, Office-Clerk I, Lisa Moran and Cheryl Sheldon, Steno Clerk III.

#### **EXAMINATION**

The Board conducted examinations for registration of pharmacists during the year. They were held at the School of Pharmacy of the University of Maryland on June 22, 23, 24, and 25, 1982 and January 25, 26, and 27, 1983.

The applicants who were examined in June of 1982 were licensed in July 1982 which is in F.Y. 1983. There were one hundred and three applicants for the Board in June, 1982. Ninety-five passed both the theoretical and practical portions of the examination and were subsequently registered. Six failed the examination.

Having previously passed the theoretical portion of the examination, two candidates took the practical examination in June. The candidates passed and were subsequently registered.

There were fifteen applicants for the Board in January. 1983 (F.Y. 83). Twelve passed both the theoretical and practical portions of the examination and were subsequently registered. Two failed the examination. Having previously passed portions of the examination, one candidate took the practical examination, passed and was subsequently registered.

Data relative to the June 1983 examination will be given

in the next Annual Report.

The Standard Examination of the National Association of Boards of Pharmacy was given, which consisted of the following subjects:

Chemistry Pharmacy Mathematics Pharmacology Practice of Pharmacy Laboratory Jurisprudence

The Jurisprudence examination included the Federal Law Exam and the Maryland Law Exam. The Maryland Law Exam was compiled by members of the Board and was given as a part of the practical portion of the examination, as well as the compounding of three prescriptions per applicant. The following table shows the number of pharmacists who were registered by examination during the past ten years:

Year	Number of
1973–1974	Pharmacists
1974–1975	111
1975–1976	113
	109
1976–1977	166
1977–1978	150
1979–1980	180
1980–1981	183
1981–1982	
1982-1983	100
	116

As in the past, many pharmacists applied for reciprocal registration in Maryland in order to accept positions with their employers who are opening stores in Maryland. Those applicants who did not meet our requirements concerning practical experience prior to or after registration in another state were advised that they must take our practical examination in order to verify their qualifications.

In all cases an applicant for reciprocal registration must appear for a personal interview. The entire Board must act on whether or not to grant registration to such applicants, who must sign an agreement to comply with Maryland's laws pertaining to drugs and pharmacy.

The following table shows the number of pharmacists granted registration by reciprocity and the number who were certified to register by reciprocity in other states during the past ten years.

Fiscal Year	Reciprocity	Certification
1973-1974	88	63
1974-1975	76	45
1975-1976	89	44
1976-1977	78	68
1977-1978	91	77
1978-1979	113	42
1979-1980	73	69
1980-1981	88	72
1981-1982	85	51
1982-1983	103	60
Total	796	528

The table shows Maryland gained 268 pharmacists by reciprocity during the past ten years.

New permits to operate a pharmacy were issued to 53 firms for the 1982 Fiscal Year.

#### **PHARMACY PERMITS**

Location	1981–1982
Counties:	
Anne Arundel	3
Baltimore	10
Carroll	4
Charles	2
Dorchester	2
Frederick	2
Garrett	4
Harford	3
Kent	2
Montgomery	3
Prince Georges	5
Queens Anne's	3
Worchester	1
County Totals	44
Baltimore City	9
State-Wide Totals	53

#### **MANUFACTURERS PERMITS**

New permits to manufacture drugs, medicines, toilet articles, dentifrices, or cosmetics during 1982 were issued to five firms.

#### **DANGEROUS DRUG DISTRIBUTORS PERMITS**

The Board issued eleven new permits to sell, distribute, give or in any way dispose of dangerous drugs during 1982.

#### **OTHER PERMITS**

The total number of pharmacies in the State of Maryland for 1983 fiscal year is 968 and the total number of pharmacists is 5,232.

#### **LEGISLATION**

The following legislation which effects the profession of pharmacy either directly or indirectly was enacted by the 1983 Maryland General Assembly. This list of Bills includes the purpose as it pertains to pharmacy.

H.B. 1084 Health Occupations Boards—Disciplinary Action added the following grounds for disciplinary action against a pharmacist's license.

- Provides professional services while: 1) Under the influence of alchohol; or 2) Using any narcotic or controlled dangerous substance, as defined in Article 27 of the Code, or other drug that is in excess of Therapeutic amounts or without valid medical indication;
- 2. Submits a false statement to collect a fee.
- Is convicted of a crime or pleads guilty or nolocontendere to a felony or to a crime involving moral turvpitude, whether or not any appeal or other proceeding is pending to have the conviction or plea set aside.
- Is disciplined by a licensing or disciplinary authority of any other state or County for an act that would be grounds for disciplinery action under the Board's disciplinary statues.

H.B. 881 AELR Committee—State Documents The Board must file a notice to appear in the Maryland Register fifteen days before a meeting is to be held or a regulation is to be discussed.

#### **LIAISON ACTIVITIES**

The Board also maintained membership in the Conference of Boards and Colleges of Pharmacy of the National Association of Boards of Pharmacy, District Number Two, comprised of the states of New York, New Jersey, Pennsylvania, Delaware and Maryland.

The Board maintained cooperative activities with the State Department of Health and Mental Hygiene, the School of Pharmacy—University of Maryland, the Maryland Pharmaceutical Association, the Federal Drug Administration, the Food and Drug Administration, City, County and State Police and all Boards and Pharmacy Schools throughout the country.

#### **DISCIPLINARY ACTIVITIES**

The Board of Pharmacy receives complaints from the public concerning problems with the Board's licenses. There was a wide range of complaints which varied in severity. Listed below are statistics concerning the types of consumer complaints for the period April 1982 to April 1983.

miscellaneous*	9
mislabeled prescription	8
communication	5
incorrect drug dispensed	9
expiration date	3
generic substitution	2
refilling prescription without prescription	2
infrequently prescribed drug—hard to find	1
wrong dosage dispensed	5
Medicaid fraud	4

 $<sup>\</sup>ensuremath{^{\star}}$  Complaints are on pricing, cleanliness and professionalism.

Other complaints were received from the Division of Drug Control, Medical Assistance Compliance Administration, and the State of Maryland Courts. Five pharmacists were charged with violation of the pharmacy laws. Two formal disciplinary hearings were held and the other cases were resolved by a Consent Agreement. One pharmacist's license was revoked. Five pharmacists' licenses were suspended. One of the suspensions was an emergency suspension. The other three suspensions were immediately stayed and the individuals placed on probation under certain conditions. One license which had been suspended in a prior year was reinstated.

#### **FINANCES**

All funds of the Board of Pharmacy are deposited to the credit of the Treasurer of the State of Maryland and disbursements covering the expenses of the Board are paid by voucher by the State Comptroller.

#### FINANCIAL STATEMENT

The Board of Pharmacy had revenues of \$97,671 in 1981 and \$38,027 in 1982. The Board of Pharmacy had expenditures of \$71,992 in 1981 and \$72,305 in 1982. The Board's budget is \$113,440 for 1983 and \$117,165 for 1984.

#### OTHER ACTIVITIES

In addition to the President Bernard Lachman and Secretary-Treasurer Paul Freiman, the Board consists of the following commissioners: Ralph Quarles, Robert Snyder, Leonard DeMino, Anthony Padussis, Estelle Cohen, and Phyllis Trump. All the Commissioners are registered pharmacists in the State of Maryland with the exception of Ms. Cohen and Ms. Trump who are consumer (public) members of the Board.

At this time the Board is in the process of proposing for promulgation or amendment regulations concerning:

- Fines upon disciplinary action of Board of Pharmacy;
- Undated prescription items on pharmacy shelves to be declared outdated and subject to removal;
- 3. Internship requirements for examination;
- 4. Pharmacy reference books;
- 5. Requiring a pharmacy to be open a minimum number of hours:
- 6. Procedure for closing a pharmacy;
- Requirements for reinstatement of expired pharmacist license;
- 8. Use of computers:
- 9. Nuclear pharmacy;
- 10. Formal Hearings;
- Experience required for Licensure by reciprocity or score transfer;
- 12. Definition of PRN:

In 1983, the Board continued its excellent relationships with the Department of Health and Mental Hygiene. The cooperation and courtesy extended to the Board of Pharmacy by all members of the Department is appreciated by all the Board members.

Again the Board must commend our Executive Director, Rosyln Scheer for her continued excellent management of the Board's business. Through her efforts the Board continues to operate smoothly and efficiently. In addition, the Secretary-Treasurer must commend all of our excellent secretaries Margaret Lloyd, Lisa Moran, and Cheryl Sheldon for their excellent work and cooperation.

All of the Commissioners actively participated by serving on various committees appointed by the President, attending numerous meetings throughout the State, and being available for consultations and special meetings when necessary.

During this year the Board has increased its activities into the distribution of prescription medications in other areas. In cooperation with the Maryland Commission on Correctional Standards the Board has proposed guidelines for distribution of medication uniformly in all correctional institutions in Maryland. Once these guidelines are approved by both groups we hope to have them promulgated into regulations.

The Board of Pharmacy is working with the Committee for Impaired Pharmacists of the Maryland Pharmaceutical

Association. The Committee is a viable support system of peers and acknowledged specialists working on the premise that chemical dependency is an illness of complex behavioral and physiological origins.

In addition, we have met with the Dental Advisory Committee on Fluoridation and as a result will be approving protocol for Fluoride Treatment program throughout the State. Threshold, Inc. a half-way house has also submitted to the Board for its' approval, guidelines for administering medication in their institution.

This increased activity is as a result of the Board members visiting various institutions throughout the State and reviewing their methods of dispensing and administering medication. During this year members of the Board have visited various clinics on college campuses to review the dispensing of prescription medication. As a result of these efforts, we believe that in the future recipients of prescription medication, wherever it is received in Maryland, will be assured of the same high standards and protection that exist in the licensed pharmacies in our State.

Respectfully submitted, Paul Freiman Secretary-Treasurer

(Delivered at the 1983 MPhA Convention, Ocean City, Maryland)



Stanton Brown served as Speaker of the House of Delegates during 1982-83.

## Speaker of the House Report

It is with great pleasure that I address this meeting of the House of Delegates. The opportunity to serve as Speaker for this body has proved very gratifying and especially delightful when I consider what I have learned, what I believe I have contributed and as I see many of the new friends I have made during the past year.

In the two Regional meetings we held this past year, we covered topics ranging from rising pharmaceutical prices to the rehabilitation efforts for impaired pharmacists. These meetings proved to excellently prepared and executed.

I would like to thank you for the opportunity to serve you and especially to President Milton Sappe and Executive Director David Banta for their invaluable help, without which I could not have performed my duties as Speaker.

Thank you.

Stanton Brown Speaker

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# **Convention Reports**

## **Travel and Convention Report**

Our Association offered a London Trip in October of 1982. It was very well attended.

Our next trip was to Antiqua. This little island in the Carribbean welcomed our group with open arms. Everyone who attended said they would go back if we repeated this island at a future date.

For October 10–25, 1983, we have a bargain two-week journey through "scenic Europe." This trip for only \$719. + scooped the Dental and Medical Associations. Your Association will continue to scout for the best possible bar-

gains for our members.

Last year's Convention was our Centennial year. It was the best attended convention we have had in recent years. However, much to our pleasant surprise, this year's convention will even beat last years. We checked into Atlantic City for next year and we came to the conclusion that Ocean City would be cheaper for our members. Many members have condos here and children under 18 are not allowed into the casinos. Food prices are unreasonable in Atlantic City, rooms are higher, parking is prohibitive, beaches are dirty, and there are no kitchenettes are available in the hotels. We are a Maryland group and therefore, we should hold our Convention in Maryland.

Our Convention and Trips have netted our Association \$7,130.00 from last year's Convention to the present. This Committee welcomes suggestions at any and all times.

Thank you.

Elwin Alpern Chairman



Elwin Alpern, Convention and Trips Chairman

## **Legislative Committee Report**

As the saying goes, we have some good news and some bad news to report. The bad news is that almost all of the pharmacy related legislation was either defeated or allowed to die in committee. That is also our good news. After being over regulated for so many years, it was some relief that we ended the year just as we began.

Following is a breakdown of the bills that were proposed in Annapolis:

HB 39—Before the start of the Session, the Committee was contacted by Delegate Sheila Hixon who asked for input on a proposed bill which would have required man-



George C. Voxakis, Chairman Legislative Committee

ufacturers to pay all of the costs associated with a drug recall. The Bill was withdrawn.

HB 149, SB 94—These bills were introduced by the Nurse Practitioners to add the words "Nurse Practitioner" to the definition of Authorized Prescriber under the Pharmacy Practices Act. Currently Nurses are authorized to prescribe but it is illegal for a pharmacist to fill those prescriptions because our law does not recognize them as prescribers. The Association objected to both bills on a number of points. The main objection is that authorized prescribers can dispense their own prescriptions. After meeting with representatives from the Association, the sponsors of both bills agreed to withdraw them.

HB 1048—This is the compromise bill with the Nurse Practitioners which resulted after HB 149 and SB 94 were withdrawn. It satisfied the objections of the Legislative Committee but, because of other outside considerations,

the bill was never heard.

HB 944, HB 1047—These bills were designed to expand the scope of care which pharmacists can legally provide to the public. HB 944 added language to the definition of the Practice of Pharmacy and it was withdrawn with the possibility of a future summer study hearing. HB 1047 is a version of the California prescribing pilot project legislation which had been suggested by the Professional Affairs Committee of the Association following a resolution which was adopted several years ago. The Bill was defeated 11 to 7 with five undecideds in Committee. However, we believe that the introduction and subsequent testimony on the bill was beneficial for the profession.

SB 585, SB 586—These bills made up part of our third party package of bills based upon legislation from Georgia

and California. Both failed in committee.

HB 1296—This bill was a result of cooperation between the Pharmacy and Dental Associations and would result in placing third parties under the jurisdiction of the Insurance Commissioner. While the bill failed during the regular session, the House Committee was interested enough to schedule it for a special "Summer Study" hearing for September.

HR 40—This bill was the result of cooperation betweer the Pharmacy and Psychological Associations and urges the Maryland Congressional delegation to repeal certair portions of the Federal ERISA legislation which preempts state "Freedom of Choice" laws. This resolution passed and meetings with Congressional leaders and health care professionals as part of a national coalition, including pharmacists, have been scheduled.

HB 1058—This bill would have place Qualudes in Schedule I and was defeated.

There were, of course, a large number of other bills that the Committee followed. Some of these required testimony and others were monitored for possible applications to the profession. The above list constitutes some of the highlights of the Committee's work.

I would like to thank Dave Banta for his many trips to Annapolis, his effective lobbying, his testimony whenever required, and the willing cooperation and guidance he provided me this past year.

Thanks, also, to the members of our Committee, who donated their time; and I ask others in our profession to please take a more active part in the coming years.

George C. Voxakis Chairman

## **Medicaid Committee Report**

The past year has been an interesting and challenging one for your Third Party Committee while negotiating with the Maryland Medical Assistance Program (MMAP). The converse is true with the remaining third party plans.

The Meyers and Stauffer Survey has shown us that the cost of filling a prescription will be very close to \$4.00 by the end of the year. We cannot successfully negotiate for a higher fee because there are too many pharmacies willing to subsidize these plans by filling prescriptions far below their cost. There is no incentive for these plans to increase your fee as long as you are willing to discount your services.

There has been a small but discernable increase in the private closed group plans and HMO's. At present this competition has only affected a few of our members, but we must continue to fight this problem and object to any plan which does not allow for freedom of choice for pharmaceutical services.

Most of the events of interest have taken place in the arena at 201 W. Preston Street which houses the MMAP. Your Committee has worked extremely hard to defeat regulations which would hinder the professional practice of pharmacy and has recommended and supported those which would be beneficial both to the State and the pharmacy practitioner. We are fortunate in having a good working relationship with the State. This cooperative atmosphere helps to minimize both the additional work necessary in the filling of Medical Assistance prescriptions and adverse financial impact imposed by cost containment measures.

The telephone verification system is expected to be tested in July in other areas than pharmacy. The system, which will require a phone call to Medicaid for each patient, to be guaranteed payment, even if the card is indate, may allow an exemption for low price prescriptions. This system is a result of a legislative mandate, and was not initiated by Medicaid. The Generic Utilization Incentive Program is expected to be presented for the formal regulatory hearing process during the Summer. The State is hoping for a November 1, 1983 implementation. This concept was negotiated on your behalf by your Committee. If you have any questions, feel free to call me.

Thank you.

Donald A. Schumer Chairman



Jim TerBorg, Chairman of the Third Party Committee (left) and Donald Schumer, Chairman of the Medicaid Committee make their reports.

## **Third Party Committee Report**

The light ahead, could it be the end of the tunnel or is it the flash which precedes the dooming shock wave of final destruction? The glimmer, good or bad, that is referred to is Generic Utilization Incentive, or GUI. This Committee has worked for this program in principle for many years. It now seems to be the right place and time to give it a try. Sometime this Fall GUI should become a reality. Some will welcome it, some curse it and others ignore it. We hope everyone, the consumer, the State and you the provider will benefit. If everyone benefits, then who pays? The brand name manufacturers pay some and the providers pay some in extra inventory. If this program does what we hope it will do, provide a fair system allowing providers to bring less expensive health care to consumers, then maybe other third parties will follow suit. Time will tell. Just getting Medical Assistance to work with us and actually try one of our ideas has to rank as the highlight of this Committee's activities this year.

We have learned that despite the Telephone Verification Eligibility Program's going into effect, there may be some dollar levels imposed to make this a more workable program. The Maryland fee survey was finished and disseminated to the press and labor organizations. When copays were dropped, however, so were any chances for fee increases this year. The Committee was active during the past year in working with the legislative Committee on common problems, i.e. third party bonding, auditing procedures, payment levels and turn around time on billings. Dr. Schumer and Dr. Rubin continued their efforts on the Medical Assistance-Pharmacy Liaison Committee spending most of their time addressing the Medical Assistance regulations and, of course the previously mentioned GUI.

It is of paramount importance that members of the MPhA step forward and actively participate in the Committees of this organization. If unwilling to pay the price in time and effort, do not expect present problems to do anything but worsen. Thanks to the tireless efforts of those on this Committee who have this year wrought something positive, to wit the GUI, which next year at this time the next chairperson can hopefully report is still something positive.

James TerBorg Chairman

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## **Newsletter Committee Report**

The Newsletter has been printed ten or eleven times a year for the past seven years with the help and guidance of the office staff and Executive Director. It seems to be perceived as a valuable membership benefit.

The Newsletter could be improved immensely if each local association and specialty organization would contact me or the office before the twentieth of each month, which is our copy deadline. In particular we lack information on events taking place within the local associations and activities of individual members. Unfortunately, the only news that can be printed is what Dave Banta or myself learn about.

To prevent the Newsletter from becoming too parochial, I would welcome one or more members, particularly in other areas of the State than Baltimore, who would serve as volunteer "reporters." Any member of the Association who receives an honor or who makes news in any area of the State should be mentioned in our Newsletter.

Melvin Rubin Chairman



Melvin Rubin, Treasurer of the Association and Chairman of the Newsletter Committee.

## Industry Relations Committee Report

The Industry Relations Committee of the Maryland Pharmaceutical Association met several times during the past year and at each meeting discussion concerning important issues was always lively. At last year's Centennial Convention, a resolution was introduced and adopted which called for a Regional meeting to be devoted to the issue of the rising cost of prescription drugs. The Committee assisted in the planning the 1982 Fall Regional meeting which discussed this important issue.

At the suggestion of the Committee, issues of the Maryland Pharmacist carried a list of emergency telephone numbers for the major manufacturers and another issue carried specific telephone numbers for drug product information. The Committee continued to be concerned with rising drug costs and the implications this has for certain third party reimbursement mechanisms. It was suggested that a meeting be set up with the Medical Society to dis-

cuss the practice of some prescribers in issuing prescriptions for large quantities of expensive medicines. This was also accomplished. In the wake of the Tylenol tragedy and subsequent recall, the Committee discussed methods for better distributing important information to all health care practitioners.

The Committee continued its on-going ombudsman activity with regard to return goods policies. On behalf of the Committee, staff made several inquiries throughout the year to help pharmacists establish constructive dialogue and productive results from manufacturers on this issue.

The Baltimore Metropolitan Pharmaceutical Association requested assistance in setting up a program regarding Pharmacist–Industry relations. The Committee assisted in this effort and a program was held with a trade relations representative of a major manufacturer as the program resource.

The Committee continues to be open to suggestions from the membership and openly solicits, at this time, your suggestions concerning issues involving Pharmacy–Industry relations. I appreciate the work of the Committee members and the special contributions of the office staff to the work of the Committee.

Mark Golibart Chairman

## **Required Publications Committee**

COMMITTEE MEMBERS: Nick Lykos, Gary Magnus, Leonard DeMino, William Heller, Lee Ahlstrom, Bruce Krug, Robert Beardsly.

CHARGE AND OBJECTIVES: Review the requirement that all pharmacies maintain current USP and possible replacement with the USP-DI.

MEETINGS: The Committee had three meetings after being formed in November, 1983 following adoption of a resolution from the House of Delegates and a subsequent motion to study this issue and report back to the House. CONCLUSION:

- The Committee concluded that we recommend that the USP be continued as a required compendia by all Maryland Pharmacies. This decision was accepted by the Board of Trustees on their meeting of January 20, 1983.
- That the Committee be extended and broaden its scope of work to include recommended reference material and compendia that a Pharmacist would utilize.
- 3) That a survey be made of the Spring, 1983 Regional Meeting of participating pharmacist's use of referencial material. The most frequent used reference texts were: Facts and Comparisons, USP-DI, PDR, APhA Handbook of OTC Drugs, the Blue Book, and the Red Book; among twenty-five references.
- 4) That we publish recommended reference material for the Pharmacist to utilize in the practice of pharmacy and the preparation of medication. The Committee should also recommend publications for use in the distribution of information to fellow health care practitioners, patients and the public. It is further recommended that a Seminar or Regional Meeting be planned with this Committee finding in mind.

Nick Lykos Chairman

AUGUST, 1983 15

## Professional Affairs Committee Report

I am most delighted to report on the re-activation of a most enthusiastic Professional Affairs Committee (formerly the Primary Care Committee). This committee was formed several years ago in response to the House of Delegates resolution which called for a prescribing role for pharmacists. The present committee has expanded this concept to consider all practice related issues, not just the prescribing role of pharmacists. To this end, committee members represent all practice settings which we could identify in Maryland, such as community and chain pharmacists, hospital and skilled nursing facility pharmacist, both clinical and dispensing, urban and rural practices settings, faculty members, semi-retired, owners and employees. Two meetings were held in late spring and served as brainstorming sessions to begin to identify issues of concern. The committee asked me to share its ideas with the association membership and to ask for comments, additions, suggestions.

Issues of Concern:

Separation of fee for service and product. Committee members will review existing programs (where concepts are implemented) with the intent of preparing a position paper to present to third parties and other payors. This issue would continue the work of the Primary Care Committee.

Expanding the role of the pharmacist as a community health educator. The committee would sponsor promotional health months and would assist Dave in locating and coordinating resources to offer to Maryland practitioners who sponsor health programs. We would maintain a calendar of up-coming events and a supply of resource materials.

 In conjunction with #2, the committee will identify available (?) financial assistance/grants to practitioners who offer preventive health services to the community.

4. The utilization of the *Maryland Pharmacist* as a forum to "network" about pharmacy practice in Maryland. We will solicit "raw" material from practitioners (handwritten copy, tape recording, telephone conversations) regarding some special practice innovation, practitioner aide, etc.

5. The committee would identify special needs of the membership and would support C.E. programs to meet these special needs, e.g. development of I.V. admixture in skilled nursing facilities.

Identification and promotion of the role of the pharmacist to the public (e.g. using public service announcement) and to other health care professionals (e.g. article about pharmacists in Med Chi journal).

7. Development of information useful to practitioners (continuing in the fine tradition of the tear-out sheets in the Maryland Pharmacist). e.g. the development of an OTC formulary both to encourage third party consideration of reimbursement as well as for counter-side reference.

As stated previously, comments, criticism and encouragement are welcome, either at present or at a future time. Feel free to contact me.

Madeline Feinberg Chairman

## **Necrology Report**

Deceased Pharmacists
University of Maryland Pharmacy Alumni

Name Allen, Claris M. Archambault, Paul J. Barke, Daniel S. Blum, Joseph Sydney Calmen, Elmon Choconas, Nicholas Cohen, Irvin	Class 1961 1930 1931 1926 1925 1978 1928	Past Honorary President
Cooper, Morris	1926	Past Honorary President
DiGristine, Mary Eichberg, Daniel M. Feldman, Charles M. Feldman, Leon H. Glass, Albert J. Goldberg, Marvin H. Grollman, Ellis Heer, Wilmer Jacob Highstein, Benjamin Ichniowski, Casimer T. Kirson, Walter Laken, Bernard Benjamin Merkel, Henry Morgenroth, Victor H., Jr.	1941 1949 1932 1930 1928 1955 1926 1927 1931 1929 1932 1936 1937 1939	Past President,
Pearlman, Albert Petts, Mildred Shivers Pfeifer, Charles Edward, Jr. Rosenberg, Milton Bernard Sachs Michael Schiff, Nathan Stein, Milton R. Turner, Albert Franklin Wolf, Ida Noveck	1938 1930 1953 1929 1951 1928 1929 1937 1932	Honorary President



Madeline Feinberg served as Toastmistress for the Banquet and was also the Chairman of the Professional Affairs Committee. Here she gives the Out-Going Speaker of the House Award to Stanton Brown who assisted her at the Banquet as Vice Toastmistress

#### U.S. PharmPac Report

Since last year when I reported to the Maryland Pharmaceutical Association on what the U.S. PharmPac has done, there has not really been much accomplished to

help pharmacy solve its legislative problems.

My personal political fling in Maryland's primary and general elections caused me to devote all of my available time and attention to local politics. I did request help from the U.S. PharmPac Board and received promises, but no money. Then early in 1983, I again asked for help from the Board and encouraged each Board member to ask his or her state executive to take part on an information meeting on state PACs that was announced for the APhA New Orleans meeting in April.

News of this planned APhA meeting to share information on PAC's prompted me to write a congratulatory letter to Chairman Maurice Bectel of the APhA Board and I offered some advise based on my experiences. Recently when David Banta reported to me on what happened at the APhA meeting in regard to this PAC information sharing program, I concluded once again that the real leadership for PAC information-sharing was not present, as Dave stated

nothing much happened.

This is disappointing news to me and it is difficult to know what will turn this around. I read with interest the reports on the annual meeting published in the June, 1983 issue of American Pharmacy and I could not even find the PAC information-sharing session mentioned. Although the APhA reported that it had "watched" and monitored various events in Congress, the published reports in American Pharmacy clearly state that it spent more time with the Food and Drug Administration then any other Federal government agency. The Association gave a Hubert H. Humphrey Award to a Pharmacist who had served in the Virginia House of Delegates for 22 years. That in itself is quite an accomplishment, but one must realize that this pharmacist spent a great many years working for a drug manufacturer after his career in community and association work. How much this man worked to advance the profession over the company interest, I do not know. I read also that an award was given to a speaker who preached that pharmacy will not succeed with legislation and poli-

Thus, we may be going into a new era of enlightenment where the pendulum has swung to the side of those in pharmacy who are forever high in the tower and away from the real world.

In fact, I want to suggest that we have probably reached the point where there is no longer any dynamic tension between two opposing groups—those who believe in political action and those who believe politics is dirty and "unprofessional." We have reached the point where we, as a profession, are simply indifferent to the whole scene of politics.

Apparently, all of the real movers and shakers have gone to the chain pharmacy management, the large hospital pharmacies and the tight cliques in the three or four other national pharmacy organizations. Pharmacy's really capable people are too busy making money and taking care of their personal interests first to give time to "professional association" interests on behalf of all pharmacists. Maybe that is what Bill Apple wanted to say last year when he asked you where pharmacy's leaders would be coming from in the future.

In the June, 1983 issue of the Federal Election Commission Record, it is reported that PAC contributions in 1982 congressional campaigns totalled \$83.1 million, amounting to a 50.5% increase over the \$55.2 contributed



William Skinner, General Counsel for the U.S. PharmPAC and Chairman of the Centennial Celebration Committee, wears the MPhA hat that was given to each full paid registrant at the Convention while delivering his reports.

by PACs to 1980 congressional races. The top ten PAC money raisers were the National Conservative Political Action Committee with \$9.9 million raised during the two years of January 1981 to December 1982; the National Congressional Club, \$9.7 million, the Realtors Political Action Committee, \$2.9 million; the Fund for Conservative Majority, \$2.9 million, the AMA Political Action Committee, \$2.4 million, the National Committee for an Effective Congress, \$2.4 million; and so on down the line.

The ten top PAC contributors to all federal candidates during the two years prior to December 1982 were the Realtors Political Action Committee with \$2.1 million and the AMA with \$1.7 million dollars, followed by the UAW Voluntary Community Action Program, \$1.6 million and the Machinists Non-partisan Political Leauge, \$1.4 million and the National Education Association \$1.1. The Builders gave more than \$1 million and the milk producers, bankers, automobile and truck dealers and the AFL—CIO Cope Committee gave slightly less than \$1 million dollars each during the last Federal elections.

So with all this increased giving and pharmacy showing a reduction and a negative attitude to boot, I believe my criticism is justified.

Bringing these numbers home to Maryland, you ought to know that the Maryland Medical Political Action Committee in the year ending December 1980 gave \$22,000.00 to incumbents and \$28,000.00 to Senate/House challengers. Most of that money was given to House Republican candidates, \$27,400, and \$16,800.00 to Democratic candidates. In the same year ending December, 1980, the NARD PAC is reported to have given a total of \$6,150.00 to incumbents and total contributions of \$7,200.00 during the whole year.

At the same time political reform keeps being talked about in the Congress. The year Jimmy Carter beat Jerry Ford, PACs gave \$23 million. The jump to \$55.2 million in the year President Reagan won office and now the \$83.1 million even without a presidential election being held, indicates to this observer that PACs are going to continue to be a major factor for all political races for the Congress and the President unless Congress changes the law.

A large number of pharmacy people have been persuaded by pharmacy leaders that PACs are a waste of time. However, when these same pharmacy leaders are consulted privately, what they are really saying is that they have tried to generate interest in PAC activity, but the profession does not seem to buy it. Therefore, to avoid what appears to be the inevitable failure, these pharmacy leaders have decided simply not to try.

AUGUST, 1983

There are some who believe that PACs are no longer a factor in many election races, because they saturate the spending in campaigns so that once enough money has been raised by both sides, elections are won on other issues and not on money.

For example, in 1982, the candidates who spent the most on their bids for Senate and House Seats lost. Reported in the June *American Bar Association Journal*, Mark Dayton spent \$7 million in Minnesota Senate race and was defeated by Dave Durenberger, who spent only \$4 million. In New Jersey, House candidate Adam Levin's \$2 million campaign failed against that of Matthew Rinaldo, who spent \$719,000.

Topping the spending list of winners was Senator Pete Wilson (R-CA) who spent \$7 million to opponent Jerry Brown's \$5.3 million. In a Massachusetts House race, democratic winner Barney Frank spent \$1.5 million to loser Margaret Heckler's \$966,000. Heckler ended up as Secretary of Health and Human Services, but who knows what

happened Jerry Brown? Such is politics.

Money makes a difference according to the experts when you have a campaign that is pitting a candidate with \$200,000 against one that has \$50,000 but once you have enough money to saturate your message to all voters in the area, things begin to hinge on what the message is and other circumstances. In other words, according to Chris Atherton, an associate professor of political science at Yale, "If you have a campaign in which one candidate spends \$250,000 versus another with \$1,000,000, its just as likely that the one with \$250,000 will win."

To prove my point about money being important, let me remind you that the House and Senate have been bickering back and forth about their own salaries for the past several years and months. The Senate voted two weeks ago to raise their salaries to the same level as the House and to hold up their self-imposed honorarium limit. Money is obviously important to the members of Congress. I think it is so important that the profession of Pharmacy is missing a real chance to attain some special goals through the political process because of our inaction in political areas.

I want to remind you that what is true on the national level is the same on the State level. A campaign for a seat in the Maryland House or Senate now costs \$30,000 and up in Baltimore and the suburban counties near Washington, D.C. Raising money for state elections is tougher than raising it for Federal races in some areas because the stakes are different and the voters behave unexpectedly.

What is the solution to our legislative and political ac-

tion problems in pharmacy?

It is very simple. We need to get our national associations to work together and we need some dynamic leaders who know how to persuade pharmacists to give up a few dollars a year to help the profession grow and attain some realistic goals through the legislative and political process that is the hall mark of the American people resolving their differences through debate and the vote.

William Skinner General Counsel

## **Tripartite Committee**

The Maryland Tripartite Pharmacy Committee is composed of representatives of three sectors of pharmacy in Maryland—the profession (Maryland Pharmaceutical Association and the Maryland Society of Hospital Pharmacists), education (University of Maryland School of Pharmacy), and regulatory agency (Maryland Board of Pharmacy). This Committee serves as a coordinating council

for pharmacy in Maryland, and serves as a clearinghouse for ideas and programs and as a resource to Pharmacy. other health professions and to society in general. The leadership of the Committee rotates from year to year, with each organization assuming the chairmanship in turn. This year the Committee was chaired by Francis B. Palumbo representing the University of Maryland School of Pharmacy. Other members of the Tripartite Committee for 1982-83 and their affiliations are as follows: Robert A. Kerr and Ralph F. Shangraw, University of Maryland School of Pharmacy; Melvin Rubin, Irvin Kamenetz, and Angelique Kariotis, Maryland Pharmaceutical Association; Harry Hamet and Thomas Patrick, Maryland Society of Hospital Pharmacists; Estelle Cohen and Leonard DeMino, Maryland Board of Pharmacy. The Committee met twice during the past year and shared ideas on a number of issues of significance to the profession of Pharmacy. I would like to take the opportunity to review for you the most significant issues that we discussed during the past year.

1. Impaired Pharmacists. It was brought to the attention of the Committee that MPhA has resolved to set up a committee on impaired pharmacists. The Association is developing a procedure for identifying impaired professionals and assessing which of these can be helped. This Committee does reserve the right to inform the Board of any pharmacist's impairment, if it feels that the welfare of

the public would be best served in that fashion.

2. Third Party Issues. As usual, issues of Medicaid and other third parties are of paramount interest to all members of the profession. As you are aware, the Department of Health and Mental Hygiene proposed a Medicaid regulation that would require prescriptions to be dispensed solely as written. The Medicaid program claims that it had seen a pattern of prescription splitting on oral contraceptive drugs; and it would appear that their entire proposal is based on this one class of medication. The Board of Pharmacy did testify against this regulation; and MPhA has requested Medicaid to rescind their original proposal and enter into a dialogue which would result in a pharmacist retaining his/her professional prerogatives. The issue of dispensing cost and product costs was also discussed. The pharmaceutical industry can pass their increased costs through a third party program while the pharmacist is limited to a fixed fee. Myers and Stauffer's study found that as of December 1982 the cost of dispensing a prescription would be \$3.79, projected to \$4.03 in December 1983. The Committee also discussed abolishment of the copayment for federally funded Medicaid recipients. The net effect of that act for pharmacists in Maryland is that a fee increase would probably not be possible this year. The generic utilization incentive program was also discussed and it basically provides that the State would be able to take advantage of the lower cost of generic drugs if the pharmacist can get some reimbursement for his/her administrative tasks. The present proposal would allow reimbursement to the pharmacist using the following formula: cost of generic drug + 10% of the brand name drug + the dispensing fee.

3. The School of Pharmacy has received a contract from the State of Maryland to improve pharmaceutical services, both administrative and clinical, to the State Mental Hospital at Spring Grove. It is hoped that this would expand to cover other mental facilities in the State of Maryland. The contract basically entails conducting medication regimen reviews and developing the system of pharma-

ceutical services.

4. The Committee discussed expanded roles of pharmacists that are being proposed in other states. Such bills are basically referred to as pharmacy prescribing acts and

cover activities such as total parenteral nutrition, pharmacokinetic dosing and chronic disease management. There are some models operating in other states which would allow pharmacists to prescribe according to specific protocols.

5. The Doctor of Pharmacy program at the school of Pharmacy has increased from six to ten students. This program is presently being reviewed and there may be some major structural changes as a result. The job market for clinical pharmacists is continually expanding in the State of Maryland.

6. The foreign pharmacist issue. With regard to examination of foreign trained pharmacists, the Maryland Board of Pharmacy has decided to follow whichever decision the National Association of Boards of Pharmacy adopts. However, on the issues of reciprocity, the Borad wants to make its own evaluation of out of state or foreign students.

I have attempted to cover some of the highlights of our meetings during the past year. In addition to the items mentioned, a number of other issues were discussed related to legislation, regulatory activities, association, and education activities. These are too numerous to mention in this summary, however I would be more than happy to share this information with any and all interested parties. I would like to take this opportunity to add that I have thoroughly enjoyed the interaction with my professional colleagues from other areas of pharmacy practice, and I trust that we can continue to share ideas and points of view on issues of great importance to the profession.

Francis B. Palumbo Chairman

# Centennial Celebration Committee Report

This will be the wrap up report on the 100th year celebration that the Maryland Pharmaceutical Association conducted throughout the year 1982.

At last year's Convention, I reported on what we had done and what was planned from June, 1982 forward into the year. We were looking forward to a great emphasis on making an impact on the public through a Speakers Bureau program. Our Museum was to be announced to persons interested in learning more about pharmacy memorabilia and history. It was not too long after I got home from the Convention that I got a call from the Office asking me to be a speaker in Montgomery County for our Speakers Bureau. We had received about a half a dozen volunteers for the Bureau at the Convention and additional persons joined in later. This effort has been continued by the Public Relations Committee and, from everything I have heard, the cooperation among pharmacists previously engaged in the SCODAE and ElderEd Programs has been tremendous.

The Centennial Committee purchased two sale items to help support the Centennial year. The small lapel pin and the Apothecary jar were the two items we purchased in order to earn money for our projects. These items cost us a total of \$1,623.68 and we have sold approximately \$2,096.89 worth of them combined. In addition, the Board of Trustees voted to purchase some sketches of old-time Maryland Pharmacies and historical sites at a cost of \$780.89 and the Association has sold \$229.32 worth of these throughout the past year. We also sold \$638.29 worth of certificate plaques.

Monies from the Centennial sales have gone to purchase a special "give away" ball point pen for VIP's and to purchase the sign on the lawn at the Kelly Memorial Building in Baltimore. The sign, of course, announces the availability of the B. Olive Cole Museum.

Although it may be too early to report, David Banta and I have discussed and hope to publish a compilation of the Centennial articles from the *Maryland Pharmacist*, together with a few other earlier historical articles as a special issue of the *Maryland Pharmacist* to commemorate the 100th year and to provide another vehicle for promoting the pharmacy profession to the Maryland public. Hopefully this project will be completed before we come back to the next Convention in 1984.

None of these things could have been done without the assistance of David Banta and the office staff over the last three years. Each member of the Centennial Committee appreciates the work put in by our capable office staff and we congratulate the Association on having conducted a yearlong Centennial Celebration.

William Skinner Chairman



Harry Hamet served as Vice Speaker and Chairman of the Resolutions Committee. Here he delivers the message from the Maryland Society of Hospital Pharmacists.

## Maryland Society of Hospital Pharmacists Message

The Membership, Board of Directors, and Officers of the Maryland Society of Hospital Pharmacists are pleased to bring greetings to your 101st annual meeting. As our Associations gain experience and expertise we need to grow closer in order to assure a unified profession. The ground work for this unity has its seeds currently planted in the Tripartite Committee and Continuing Education Coordinating Council. Our societies share many common needs and concerns and we often impact on our legislators together to assure a positive outcome for pharmacy The Maryland Society of Hospital Pharmacists has recently completed a new Policy and Procedure Manual that refers in several places to the need and desirability of establishing and promoting good working relations with the Maryland Pharmaceutical Association. It is my hope that this togetherness will flourish in the future under our new leadership. The profession of Pharmacy can only become stronger through the combined efforts of our two active Associations.

Steven S. Cohen President



# **Hidden Costs**

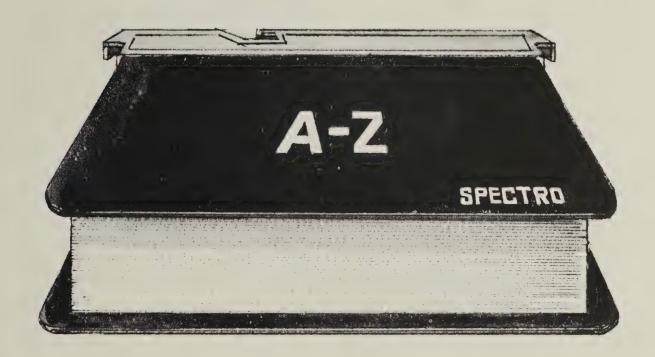
The direct costs of health care actually account for only 40 percent of the total cost of illness. The remaining 60 percent are indirect costs, such as absenteeism and loss of productivity caused by illness. These are as real economically as the health care expenditures usually associated with illness.

Surprising? Yes. But it should come as no surprise that when the patient gets well faster, both the direct and indirect costs can be reduced.



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## **Peer Review Committee Report**

Since our last report of June, 1982, we have received six letters of complaint. Some letters go directly to the Maryland Board of Pharmacy and are not submitted to the Peer Review Committee. Still, it is a credit to pharmacists that so few people get angry enough to write a letter.

We recently received a new and unusual complaint an insurance company claim representative thought a pharmacy had overcharged them. When we saw the list of prices that were charged by the pharmacy we thought that the prices were outrageously high. However, we realized that it is not for us to judge what is a fair price for such varied services rendered by each individual pharmacy. Enclosed is the letter in reply to the insurance fund (names removed from copy).

Another complaint was about a prescription written for 10 A.V.C. suppositories. The pharmacist dispensed and charged for the original package of 16 suppositories. En-

closed is a copy of our reply.

Other letters were contentions of overcharging—to our surprise, usually chains were accused of charging too much. We also had a few prescription errors—the public was dismayed to find that pharmacists were not infallible.

We only reported in detail on the enclosed letters because they represent problems that should be discussed

at this convention.

Irvin Kamenetz Chairman

# Student American Pharmaceutical Association Report

The Student American Pharmaceutical Association of the University of Maryland Chapter has had a very, very exciting year. In the Student APhA tradition, the past year has been devoted to increasing student-faculty-pharmacist interactions and to increasing student awareness of the pharmacy profession.

Last September, the year started out with a tremendous membership drive. In the face of rising attrition rates across the Board, we did well to increase our membership by a

few students.

In October, our chapter hosted the 1982 Region II Student APhA Meeting in Baltimore under the guidance of regional coordinator Taher Sheybani and Past President Cheryl Betz. I am pleased to announce that it was a huge success. We had greater attendance than any other Regional Meeting in the country! Not only were the programs interesting and the business meetings politically stimulating, but the banquet on Saturday night showed the rest of the country that Maryland knows how to party right.

In the past year, we have tried to beef-up our student programs. We produced such programs as Bruce Seicker from the APhA speaking on "Resumes and Interviews," and Harry Finke on "Pharmacy in Maryland and PEP Preceptors." We also had a program set up by Karen Suster, our Vice-President, concerning our new curriculum. A panel of selected faculty, including the Dean, fielded questions and complaints from the audience. This program was very well attended by students and we are now waiting to

## **Examples of Peer Review Committee Complaints**

Dear Ms. \_\_\_\_\_\_
The Maryland Pharmaceutical Association Peer Review Committee has investigated your contention that the \_\_\_\_\_\_ Pharmacy has overcharged the \_\_\_\_\_\_
Insurance Fund.
We did note that the charges submitted by the pharmacy was higher than the usual and customary fees charged to regular clients of most pharmacies. Dr. \_\_\_\_\_\_, the owner of \_\_\_\_\_\_ Pharmacy's explanation for this was that "handling an insurance claim involved more than usual expense, time and financial risk."
The Peer Review Committee asked Dr. \_\_\_\_\_\_ to document this in writing, and enclosed is his letter with an example of a bill submitted to you on October 23, 1982

As you know, under the Anti-Trust Laws, the Maryland Pharmaceutical Association cannot dictate a price that any pharmacy can charge. However, retail pharmacy is an exceptionally competitive profession. A Maryland State survey revealed that it costs the pharmacist almost \$4.00 to fill a prescription, and when you add the cost of the drug, you realize how little profit is received by the pharmacist.

The Maryland Pharmaceutical Association Peer Review Committee thanks you for your letter and hopes that we have contributed to a better degree of understanding between your company and pharmacists.

Sincerely,

and paid on May 6, 1983.

Dear Ms. \_\_\_\_\_

We received your letter regarding your prescription for AVC with Diemestrol suppositories.

Ordinarily, a pharmacist will fill a prescription for exactly the quantity specified by your doctor. In this case, the pharmacist was in a dilemma; he could have given you 16 suppositories, as he did, or he could have dispensed 10 as specified by your doctor. If he gave you 10, you would still have to pay about the same price for the prescription, as the other 6 suppositories would not have any value to the pharmacy. It would be unusual to dispense less than the original package which has the applicator.

It is obvious that the lack of communication on the part of the pharmacist is responsible for your letter. The Pharmacist should have explained the situation to you before filling prescription; possibly suggesting that you keep the extra suppositories and use them in and event of a possible recurrence of your medical problem. Of course, all of this should be done with the concurrence of your physician.

Thank you for your letter, we appreciate any comments concerning the practice of pharmacy.

Sincerely,



Joseph Kaufman, Legal Counsel for the Maryland Pharmaceutical Association delivered remarks about the legal problems confronting pharmacy.

see some results. We also produced a computer seminar engineered by Bill Cooper, Our treasurer, which was well attended by Maryland Pharmacists. The content of the Program was informative and overall, it was an excellent seminar.

Our fundraising efforts have been as diligent as ever in the past year. We had bakesales, T-Shirts sales, OTC Handbook sales and a tremendous color T.V. raffle which was quite successful. We also had our semi-annual coffee houses which were enjoyed by all who attended. We had the pleasure of listening to such faculty as Buzz Kerr and Dave Roffman, and such MPhA dignitaries as Dave Banta and Stan Brown.

Some of our fundraising efforts went towards supporting students who wished to attend the national Student APhA Convention. This year's Convention was held in New Orleans and I am proud to say that we sent fifteen students. But we could not have done it without the support of the MPhA, both morally and financially. It pleases me to see that the MPhA realizes the worth of a pharmacy student's personal and professional growth.

Student involvement with the MPhA remains constant. We have students on several committees such as: the Board of Trustees, Legislative Committee and Membership Committee

One project that we are all very excited about is the beginning of a professional Student APhA Newsletter. The goals of the newsletter are to increase interstudent communications and to let other student APhA chapters know what we, at Maryland, are up to. We expect to have several informative columns, one of which will be an MPhA Report. The first issue is due out late in July.

In conclusion, on behalf of our Student APhA Chapter, I would like to congratulate the MPhA on another fine convention and thank you for your continued support. I would also like to thank Dr. Donald Fedder for the never-ending time he devotes to us. And finally, I would like to thank all the students who make it all possible.

Brian Sanderoff President

#### **Public Affairs Committee Report**

The Public Affairs Committee was reactivated this year. Our goal was to increase public awareness of our profession. After issuing a press release to the local media, our Speakers Bureau received an increase number of requests for our members to address various groups. The Committee is also looking into the possibility of publishing a booklet or brochure which would detail the education and responsibilities of the pharmacist. It would be helpful in our lobbying efforts to inform our legislature of the pharmacist's capabilities. The brochure could also be used in recruiting students to apply to the school of pharmacy.

Ruth Blatt Chairman

#### Continuing Education Coordinating Council Report

The Continuing Education Coordinating Council has again experienced a productive year and is a model of cooperative effort among the three organizations that participate. The MPhA, the MSHP and the School each have representatives on the Council and over the past several years the Council has succeeded in developing a high standard for programming. As in the past, the Council solicits for volunteers who are interested in the process of providing quality educational experiences for Maryland Pharmacists to assist the Council in this important work.

Last season's programs included successful day long seminars on the subjects of Cardiovascular Diseases, Diabetes and Arthritis. In addition, the traveling "Road Show" on new drugs was again made available to local associations to assist them with their program needs. The Council met throughout the year to review program plans with the various Chairmen who have major responsibility for organizing these continuing education programs.

The Council has applied for accreditation from the American Council on Pharmaceutical Education (ACPE), so that it may continue to offer accredited programs. The Council is working to gain a special non-profit tax status to help lower the cost of state-wide mailings by taking advantage of lower postal rates. The Council has again initiated an elaborate planning process for the coming season and has begun the task of raising necessary financial support for these programs. Plans for the 1983–84 season include programs on the following subjects: Pain Management–September

GastroIntestinal Diseases—November Critical Care Management—March Nutrition—May

In addition, the Council will continue the work of the "Road Show." Selection of program topics is based, in part, on input from pharmacists who attend programming and participate in the Council's evaluation process.

I would like to thank all of the volunteers who have served on the Council, its subcommittees and as program chairmen, for all of their hard work in developing and executing these programs. Thank you.

> David A. Banta Secretary

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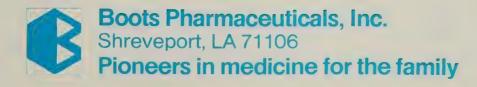
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## Summa Cum Laude this summer.

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They added to their educational process . . . learned about manufacturing, quality control, pharmaceutical research, and marketing/sales.

We hope we answered their questions. Certainly, we took their suggestions to heart.

And when the 10 weeks were over, we graduated them from the internship program, we wished them well in finishing their educational requirements, and parted knowing that we'll enjoy seeing each other in the years ahead.



Suzan N. Yaman, Drake University; Margie M. Deasy, Medical College of Virginia; Karen A. Weaver, University of Toledo Jill E. Wikman, University of Michigan



William C. Hill, in-coming President of the Maryland Pharmaceutical Association is the proud recipient of the NARD Leadership Award which was presented to him by his daughter Marian Hill. She was introduced by the Executive Vice President of the NARD, William Woods, who was a special guest at the Banquet.



Nathan Schwartz (right) receives the Bowl of Hygeia Award for his community service contributions from Ray Langston of the A.H. Robins Company.



Mishel Wagman (right) receives a special prize for winning the MPhA Tennis Tournament from Frank Nacht of Berkey Photo.

This page donated by District-Paramount Photo Service.



Charles Spiglemire was the recipient of the MPhA Distinguished achievement Award in recognition of his professional contributions to the profession and is shown with his wife Josephine.



President Milton Sappe (left) presents the plaque to Honorary President Alexander Mayer in recognition of his service to pharmacy.



Betty Alpern, President of the Auxiliary, introduced the new officers for LAMPA.

Pictures courtesy Abe Bloom — District Photo

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As the months go by, I.C. System's efforts get stronger. If the debtor turns a blind eye and a deaf ear to these efforts for six months, the company releases the account back to you with a recommendation that you refer the account to an attorney with full authority to collect.

Under the new program, I.C. System proceeds as it has in the past, with one major addition. If you do not have have an attorney who handles collection work, or if the debtor lives outside the area where your attorney is authorized to practice, I.C. System will put you in touch with a qualified attorney to represent you.

Once having helped you establish a satisfactory relationship with the attorney, I.C. System steps aside. In each case, you decide whether to follow through with litigation or to drop the matter.

Members who joined the program prior to 1983 may add the litigation option, or remain under their existing program which recovered \$52.8 million for creditors during 1982. Contact the Association office for more information.



The new Officers and Trustees of the Association are shown after the Banquet. They are (left to right, front row): Martin Mintz, Harry Hamet, Milton Sappe, William Hill, Madeline Feinberg, George Voxakis, Jim TerBorg, (back row) David Banta, Lee Ahlstrom, Stanton Brown, Alex Mayer, Ronald Sanford, Melvin Rubin and Brian Sanderoff.

#### **LAMPA**



LAMPA members enjoyed a special joint brunch, fashion show and business meeting.



Cookie Cogan presented a special presentation on communications to LAMPA.

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Toll Free	1-800-492-6008
Pharmacy Assistance Program	383-2567
Toll Free	1-800-492-1974
Payments—Prescriptions	383-6893
Payments—DME and Medical Supplies	383-2954
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RX Preauthorizations	383-7716
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College of Pharmacy, Ada, Ohio



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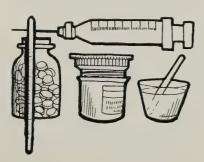
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#### LETTERS

Dear Mr. Banta:

On behalf of the officers, directors, and general membership of the Jefferson County Pharmaceutical Association I would like to express our appreciation for the generous contribution from the Maryland Pharmaceutical Association for the J.C.P.A. Legal Fund.

We seem to be "waiting" again after the decision by the U.S. Supreme Court to deny the petition for rehearing filed by the defendants. Our attorney thinks we will see some action within the next two months.

We are pleased that you agree that action must be taken at a local level to protect the independent pharmacist and small businesses in the nation and we plan to pursue this case until the very end.

Thank you for your interest and support.

Sincerely,
Robert J. Formby,
President
Jefferson County Pharmaceutical Association

*Editors Note:* The MPhA donated \$1000 to help the Jefferson County Association with its Supreme Court battle.



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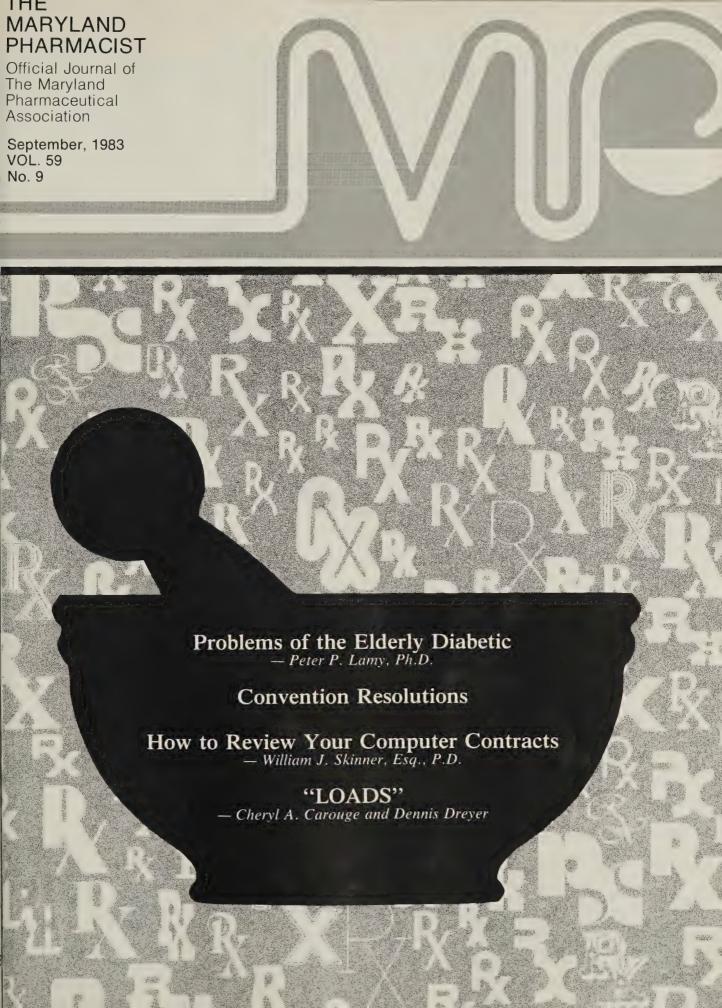
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### Guest Message

As I assume my new role as President of the Maryland Society of Hospital Pharmacist, I am pleased to have this opportunity to address the Maryland Pharmaceutical Association.

I look to the year ahead and I forsee a continued growth phase for MSHP. I am encouraged by our recent increase in membership and their level of committment to the society. I plan to nurture this interest to actively manage our growing society during my term. Emphasis will be placed on the expansion of our continuing education services in both our monthly meeting programs and our monthly newsletter publication.

The other major area of focus will be that of strategic planning especially with respect to financial management. In conjunction with the Board of Directors, our Finance Committee will be mapping out alternatives to assist in the development of medium range plans for the society. Included in those plans I would anticipate a continuation of our already positive relationship with MPhA. This cooperation is vital to both our organizations and I am prepared to accept the responsibility for supporting this relationship.

I thank MPhA for allowing me the opportunity to express my thoughts to your membership and I look forward to the year ahead.

Patricia A. Ensor

PRESIDENT

### Problems of the Elderly Diabetic

by Peter P. Lamy, Ph.D., F.A.G.S.

#### Introduction

Elderly, who account for approximately 11 percent of the total US population, comprise approximately one-third of the total diabetic population. Insulin is required for 30 percent of them (1). Management of diabetes is often more difficult in older persons, for a number of reasons.

Diabetes is not a single disease. It represents a disease complex, a group of diseases, each with separate pathogenesis and treatment approach (2), which, in the elderly with multiple pathology, may be difficult.

Diabetes has been said to be a family disease, indicating that the patient needs support. Yet, elderly often live alone faced with the prospect that once a treatment regimen (diet, exercise, drugs) has been instituted, a lifetime care program has started, a program which will literally tell the patient how to live (3). It is not surprising, therefore, that often the elderly patient may look to the provider (physician, nurse, pharmacist) as the person responsible for controlling the disease complex, yet the patient must ultimately be taught to accept that responsibility. The patient must learn to shed the role of passive recipient and must become an active participant in the care program—a prospect often very difficult for the elderly without a family or support structure.

Undue and prolonged hyperglycemia must be treated, once it has been recognized and once stress-induced hyperglycemia has been eliminated. Inactivity, infections, medications, surgery, and other, non-diabetic causes might account for it and it is not unreasonable to assume that this might occur with some frequency in the elderly. Also, some physicians still decline to treat elderly diabetics who present asymptomatically on grounds that they face a limited life expentancy and treatment, with all it attendant problems, may not be useful. This overlooks the fact that, on diagnosis, the patient may have been exposed for some time to the hazards of neuropathies, nephropathy and/or retinopathy, and good blood glucose control may, indeed, prevent their occurence during that limited lifespan.

#### Is It Diabetes Mellitus?

Approximately 50 percent of people over the age of

Dr. Lamy is Professor and Director, Center for the Study of Pharmacy and Therapeutics for the Elderly and Chairman, Department of Pharmacy Practice and Administrative Science, School of Pharmacy, University of Maryland at Baltimore, Baltimore, MD. 21201.

60 years have abnormal glucose tolerance tests. It is generally agreed that glucose tolerance deteriorates with age, but apparent hyperglycemia may well be normal for an elderly person. Deterioration may be due to chronic disease, obesity, or lack of physical activity. Decreased dietary intake, physical inactivity, decreased lean body mass, decreased insulin secretion, and insulin antagonism are some other mechanisms that have been proposed to explain changed glucose tolerance with age (4). On the other hand, in a recent study it was shown that progressive hyperglycemia and hyperinsulinemia, in response to test meals, can be demonstrated in aged women but not men (5). It is also guite likely that the elderly patient presenting with hyperglycemia may be taking blood-sugar-elevating drugs (6). Alcohol, adrenergic drugs, aminophyllin, diazoxide, estrogens, and phenytoin are among drugs that may raise blood glucose levels. Antimetabolite therapy, especially asparaginase, may result in impaired glucose tolerance, which is also often encountered in patients with hepatitis. On the other hand, salicylate poisoning may cause hypoglycemia. When testing for diabetes, 10 mg. per deciliter per decade should be added to the postprandial level, to account for changed glucose tolerance with age. Most experts believe that the fasting level does not change to a clinically significant degree.

Patients who are ultimately found to have type II diatetes are often asymtomatic and hard to diagnose. Fatigue, blurred vision and neuropathy would provide clues, as would the risk factors which predispose the patient to type II diabetes, including obesity, hypertension, 50 years of age and over, and a family history of diabetes.

It might be added here that once a diagnosis is made in an elderly patient, control standards should be set keeping in mind the patient's age, lifestyle and physical condition (3). For elderly, newly-diagnosed diabetics, it is probably best to aim at blood sugar levels between 100 and 200 mg./dl., regardless of the time of day, the regimen being adjusted to avoid nocturia and hypoglycemia. Others have suggested that the fasting blood glucose should remain below mg./dl. (plasma) or 125 mg./dl (whole blood) no matter what the patient's age (7).

#### The Diabetics

Appropriate treatment of diabetes mellitus will depend on an appropriate evaluation of the patient. This

may lead to one of the following diagnoses:

Chemical Diabetes:

Now called impaired glucose tolerance, which has been called poor phraseology. Elderly susceptible because of multiple pathology and polymedicine.

Type I Diabetes:

(IDDM)

Up to 20% of all diabetics. For practical purposes, patients are deficient of pancreatic beta cells or, at best, have marginal amounts of insulin. Aside from diet and exercise, insulin will be needed. Onset of disease may be acute and explosive. Patient is ketosisprone.

Ketoacidosis develops due to complete or critical insulin shortage. Usually underweight, may gain weight when insulin is administered.

Type II Diabetes:

(NIDDM)

Obese: 90% of type II patients. On increase, as obesity and longevity increase.

Endogenous insulin still available, even though there may be a decrease in beta cells. Insulin receptors may be deficient, insulin supply may be delayed, insulin sensitivity decreased. Hypoinsulinism. Patient is non-ketosis-prone, does not necessarily require insulin. Usually found in adults. Most often may require oral hypoglycemics.

Non-Obese: 10% of type II patients. Require insulin.

#### Exercise, Diets and Possible Problems

Management of diabetes rests on a triad of measures, i.e. exercise, diet and drugs, each ideally titrated to the other's effect. Exercise usually causes a decrease in blood sugar levels and may also improve insulin sensitivity. But suggesting an exercise program to an elderly patient may be futile, for a number of reasons. In some instances, one may have to break a life-long habit of no exercise, in others, physical decrements and gait change may prevent the patient from cooperating. On the other hand, it is often possible to get the patient's agreement for at least taking a daily walk.

Dietary changes, too, may be difficult to establish. Yet it is well known that the risk for diabetes doubles for every 20% of excess weight (8). Diet is important in preventing hyperglycemia and wide swings of blood glucose levels. It will also be effective in reducing the risk

of atherosclerosis, and in prevention and/or delay of complications associated with lack of metabolic control. Generally, a diet low in saturated fats and relatively rich in carbohydrates has been suggested, and careful control of caloric intake. The newly accepted dietary goals are outlined in Table I (9).

Fats are lowered to decrease the risk of coronary artery disease. The proportion of carbohydrates, especially the complex ones, is increased. Fiber is recommended as addition to the dietary plan to blunt the wide fluctuations of blood glucose produced by simple sugars. It is further suggested that sodium intake be modified to decrease the risk of hypertension. Starches seem to be well tolerated by both insulin-dependent and non-insulin-dependent patients, as long as the caloric intake is well controlled. This is of utmost importance, since total calorie intake is probably the most important factor in determining insulin requirements.

The overall goal, then, for Type I patients is to achieve consistency of timing and composition of meals. A weight-maintaining diet is essential for all nonobese patients who require insulin. In contrast, the overall goal for Type II, obese patients is weight reduction. Weight decrease in ohese patients not only reduces the threat of hyperglycemia, but also will be beneficial for hyperlipidemia and elevated blood pressure, typically found in elderly obese diabetic patients. A number of problems deserve mention. The new, high-fiber diets have not really been tested on large populations. They are believed to be effective in preventing wide swings in blood sugar, and may also actually lower blood sugar levels. There is a significant problem, though, with patient acceptance. These fiber diets are tasteless, difficult to chew, and often produce excess gas, problems which may be particularly difficult for elderly patients to accept (10).

Questions have been raised about the possible negative effects of low caloric diets, which may lead to insufficient intake of vitamins and minerals. Elderly, on multiple drug therapy, may then be deprived of further vitamins by these drugs. It has been suggested that the elderly may, indeed, need increased amounts of minerals and trace elements, based on the knowledge that chromium, zinc, potassium and calcium appear to be involved in glucose meatbolism (8). Elderly, too, often receive diuretics and may be potassium deficient. This can worsen hyperglycemia in the non-insulin-dependent individual, and it has, therefore, been suggested that patients at risk receive 40 mEq of potassium daily.

One final problem elderly diabetic patients may face and which may well influence their dietary behavior. There is a definite and consistent decrease in taste sensitivity in diabetes mellitus, the threshold for all four taste modalities being higher in diabetics than in nondiabetics. The longer the duration of the disease, the greater the increase of the taste threshold. The problem is exaggerated in diabetic patients with neuropathies (11). This may lead to inadequate food intake and nutritional deficiencies and the vitamin-mineral deficiencies mentioned previously. Protein-calorie malnutrition, widespread among elderly residents in nursing homes and hospitalized patients, may also, in part, stem from this problem. It may also lead to provider-patient conflict, particularly in patients who are on restricted sodium or sugar diets. The patient may "feel" that less salt is being taken (lack of perception of salty taste) while, actually, the patient may consume more salt.

#### Some Problems of the Elderly Diabetic

Patient complaints often stem from the effects of uncontrolled diabetes. Hyperglycemia, for example, may cause myopia which results from an increased refractive index of the lens. The patient may complain of dry throat. The pharmacy may be inflamed and the tonsils enlarged. The development of atherosclerosis is accelerated in diabetes, and coronary artery disease is seven times more common in diabetic than in other women.

Severe postural hypotension can occur and cause syncope, cardiac arrhythmias, and anginal pain. Patients with uncontrolled diabetes are also often predisposed to respiratory diseases and they may also complain of epigastric discomfort, anorexia, and nausea. One-fourth of all patients with pancreatic carcinoma have frank diabetes mellitus. Not infrequently, a patient may try to control polyuria by restricting fluid intake. This may lead to constipation and large, hard stools, rectal fissures and prolapsed hemmorrhoid. Glucosuria and fungus may be the cause of pruritus ani, which seems to occur more often in women than n men. Diabetic women often also suffer from pruritu valvae with or without vulvo-vaginitis.

Finally, the diabetic elderly may also complain of nocturnal diarrhea and disturbed micturition. Patients should be counseled against using dietetic foods containing large amounts of sorbitol, which could produce a laxative effect (15).

Many of these conditions and complaints may be treated with drugs, which, in turn, could interact with the drugs used to control blood glucose levels. In addition, the elderly suffer from specific complaints.

#### Hypertension:

Diabetic patients present with hypertension more frequently than do non-diabetic patients. Often, this is systolic hypertension, which is the result of atherosclerosis. This, in itself, can then accelerate the atherosclerotic process (16), reducing arterial compliance and increasing systolic pressure.

Therefore, if the systolic pressure is high and the diastolic elevated, that patient ought to be treated. Often, a thiazide diuretic and methyldopa (250 mg) at bedtime is effective. Sometimes, sympathetic inhibitors, such as methyldopa and beta blockers are used cautiously and, if necessary, a thiazide diuretic is added to the regimen.

#### Cardiovascular disease:

Cardiovascular disease is the major factor in overall

morbidity and mortality rates in elderly diabetics, particularly those with maturity-onset diabetes. Large and small velled diseases occur earlier and more often when patient is poorly controlled.

#### Infections:

Although well-controlled diabetics do not appear to have a lowered resistance to infections, in general, it is agreed that there is decreased resistance to infections of the skin or genito-urinary tract. Quite often, C. albicans is involved.

Diabetics are particularly susceptible to septicemia and gangrene. Vulnerability to septicemia correlates with the severity of diabetes, while duration correlates with susceptibility to gangrene. Gangrene occurs 50 and 70 times more often in diabetic men and women, respectively than in non-diabetic patients, and the elderly diabetic is especially vulnerable to gangrene because of age, possible over-weight, atherosclerosis, renal disease, and neuropathies. One of the reasons for the heightened susceptibility is, of course, a less well-functioning immune system due to the effects of primary aging. Also, decreased phagocytosis in uncontrolled diabetics will facilitate the spread of infections. Fewer polymorphonuclear leukocytes reach the infected area. Furthermore, dehydration in an elderly diabetic and possible attendant changes of ketoacidosis can decrease the body temperature to as low as 86 degrees. This, of course, can mask the febrile response to an infection (17). Sometimes, too, symptoms of infections are not present at all in elderly diabetics, or the patient or provider does not notice them.

Elderly diabetic women often face the problems of bacteriuria or infection of the upper urinary tract. They should also frequently be checked for candida vulvo-vaginitis (18).

Once infection is suspected, it must be treated vigorously. Often, an increased insulin regimen can be beneficial, as it leads to better blood glucose control, but it should be remembered that infections, themselves, increase insulin need. When antibiotics are selected,

#### Table I How to Normalize Blood Sugar

#### IDDM (Type I) Patients:

- Food intake synchronized with insulin
- For conventional therapy, use frequent meals and snacks
- Consistency of meal time and composition is very important
- Postprandial blood sugar increases may be minimized by dietary fiber
- Regular exercise is recommended

#### NIDDM (Type II) Patients:

- A. Obese
- Weight reduction is of utmost importance
- Use a hypocaloric diet, low in saturated fats
- Regular exercise is recommended
- B. Non-Obese
- Use small meals
- Postprandial blood sugar increases may be minimized by dietary fiber
- Regular exercise is recommended
- If patient is treated with insulin, use treatment regimen for type I patient

antibiotic sensitivities become very important, as is the place from which cultures are obtained. In an infected foot, for example, organisms should be derived from the soft tissue rather than from the exudate (19). Foot infections are particularly dangerous to the patient, as even superficial infections can lead to osteomyelitis.

#### Peripheral Neuophathies:

While these can occur anywhere, the lower extremities are particularly affected (20). Patients, particularly those who lack pain perception, must be taught to avoid ulcers, burn, and mechanical trauma. When pain occurs (sometimes it is totally absent), it can be severe, especially so at night. Leg pain is often associated with sustained hyperglycemia, and better control often helps. Treatment, often unsatisfactory, involves the use of codeine combined with a hypnotic, small doses of amitriptyline and fluphenazine, or for intractable pain, carbamazepine. Some clinicians report some success with the use of a TNS. Paresthesia, which occurs later, is more common and more crippling among older type II diabetics (3). Some patients respond to phenytoin. The prognosis is mixed, since in some cases it may resolve spontaneously while in other patients the conditions becomes progressively worse.

#### Ketoacidosis:

One of the leading causes of ketoacidosis in diabetes mellitus is infection. Other causative factors may be renal or hepatic problems, cardiac necrosis or myocardial infarction. Ketoacidosis has also been linked to a pulmonary infarct. Diabetic ketoacidosis is complicated in as many as 40 percent of patients and six percent will develop septicemia. It is thought to be particularly common in newly-diagnosed elderly diabetic patients (18). Dehydration is the most obvious clinical feature of patients with ketoacidosis. There may also be drowsiness, overbreathing, acetone breath, hypotension and gastric splash. In severe cases, there may be hypothermia also. It is noteworthy that in the treatment of ketoacidosis, insulin requirements may be increased in the presence of hypomagnesemia (21).

#### Nocutrnal Diarrhea:

This often alternates with constipation so that it is a difficult condition to treat. Lomotil or codeine have been tried, but not with great success (3).

#### Diabetic Nephropathy:

Intermitten proteinuria, which later becomes persistent, is indicative of diabetic nephropathy, an irreversible condition. While the complications can be somewhat checked, the patient will ultimately have to be referred to a nephrologist (3).

#### WHAT'S NEW

#### Insulin Pumps:

The open-loop portable insulin delivery system is the most widely used development to control blood glucose levels. The patients selected to use this system must be highly motivated, since its use involves more work and inconvenience than conventional insulin therapy. The system's effect can be adversely affected by factors of human error, needle slippage, leaking and kinking of the cannuala, skin intolerance, pump or battery failure. Additionally, the pumps may cost as much as \$1,000. The system is recommended for patients who are insulin-deficient and not insulin-resistant. It is generally estimated that as many as 50 percent of patients will not adjust to this system. The closed-loop system senses blood glucose levels and automatically adjusts to the correct insulin dose. Continuous subcutaneous insulin infusion (CSII) has been recommended for unstable diabetes with disabling hypoglycemic episodes. This is still an experimental delivery system, its longterm, more routine use will depend on smaller, more reliable pumps. Hazards of this technique include infections and thrombosis.

Recently, a one-year study found that continuous subcutaneous insulin infusion and multiple subcutaneous insulin injections result in similar blood glucose levels (22). In contrast, a still more recent study on the use of the open-loop insulin infusion pump (23) noted for 100 patients, aged 18 to 69 years, considerable improvement over conventional therapy in obtaining plasma glucose and glycolysated hemoglobin levels. For these selected patients, who over 15 months self-monitored and recorded their blood sugar concentrations, the technique provided a practical way to achieve normal or nearly normal blood sugar concentrations. Pump failure occurred only in five cases.

#### Home Glucose Measurements:

These are now recommended to detect hypoglycemia and hyperglycemia and to assess the blood glucose profile over 24 hrs. One of the newest models has been introduced by Bio-Dynamics. Called Accu-Check bG, it works in parallel with Chemstrip bG. Also now available are Chemstrip uG, to measure urine sugar, and Chemstrip uGK, which can also be used to determine ketones. These strips are said to measure glucose values from zero to five percent.

Visidex, a non-prescription reagent strip (Ames Division of Miles Laboratories) offers the patient a blood glucose test method that is semiquantitative and is apparently reliable. It is suitable for well-controlled type I diabetics and type II diabetics who wish to supplement or replace urine testing, and for any diabetic who cannot afford a meter. It may be very advantageous for elderly diabetics, since the test time ranges from 60 to 90 seconds and the color blocks are larger than those of many other strips.

#### Other Products:

Becton Dickinson has now marketed a citrus-flavored Glucose tablet, said to offer a controlled dose to quickly raise blood sugar levels. This, of course, was preceded by the release of Sherwood Medical's Monojel gel, which is also marketed for insulin reactions.

SEPTEMBER, 1983



Since the introduction of our "Extentab" formulations in the 1960s, A. H. Robins has maintained an enviable reputation as a producer of dependable, long-acting oral dosage forms. Now, with the addition of microencapsulation, our scientists have combined the time-release mechanism with a technique which protects the intestinal mucosa from otherwise irritating chemical substances.

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Microencapsulation makes it possib e for drugs with

an unpleasant taste or aftertaste to be "masked," even for use in a chewable dosage form. It enables the release of a drug to be slowed down, and it makes possible the dispersion of a drug throughout the contents of the gastrointestinal tract.

Meets the Eye



This latter feature is especially desirable in the case of caustic drugs such as potassium chloride, which can damage the sensitive intestinal mucosa. Given in a capsule, microencapsulated KCl disperses throughout the intestinal contents, avoiding a high concentration in a localized area. Medication release depends upon GI fluids to leach out the active ingredient by osmosis. Moisture permeates the semipermeable polymer coating of the microcapsule and dissolves the KCl which is released as a solution.

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Finally, it should be mentioned that G. D. Searle's new, artificial sweetener, aspartame, is a low calorie sweetener which may offer a choice to those not wishing to take saccharin.

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#### Resolutions

Considered by the MPhA House of Delegates at the 1983 Annual Convention

1. Whereas sound planning is the cornerstone for a progressive organization,

Therefore Be it Resolved that the Maryland Pharmaceutical Association make long term planning a principal project for th 1983-84 year and that a document be reported to the House of Delegates at the 1984 Annual Convention for discussion and approval.

Be it further Resolved that each officer of the Association and House of Delegates, and each committee chairman be asked to offer suggested goals and objectives as they relate to the work of their office or committee.

Be it further Resolved that the process include a review of current Association activities as they relate to their use of Association financial and physical resources, as well as expanding the work of the Association.

#### (Passed)

2. Whereas the consideration of the general health and well-being of our patients is of utmost importance to our profession; and

Whereas the interactions of drugs and alcohol can be of a serious and potentially fatal nature; and

Whereas many pharmacies advertise the availability of alcoholic beverages in their establishments;

Therefore Be it Resolved that the Maryland Pharmaceutical Association recommend that a warning statement such as "please ask your pharmacist if you have any questions concerning the possible interaction of alcoholic beverages and your medication" be placed in all pharmacy sponsored advertisements for alcoholic beverages.

#### (Passed)

3. Whereas interest in Regional Meeting appears to be diminishing and the Association is competing with many other organizations for the pharmacists time,

Therefore Be it Resolved that the Board of Trustees of the Maryland Pharmaceutical Association consolidate the two Regional Meetings into one Mid Year Meeting, and

Be it further Resolved that programming be developed consistent with the educational needs and interests of the members that will encourage greater attendance at the Mid Year Meeting.

#### (Passed)

4. Whereas the issues of professional competency are complex and of increasing importance to the profes-

sion and the public, and

Whereas a complete and thorough study of all issues and possible approaches to the task of ensuring continuing professional competency is needed,

Therefore Be it Resolved that a special task force committee be established to examine issues related to the maintenance of professional competency by pharmacists and that this committee report its findings to the House of Delegates of the Association for its consideration.

#### (Passed)

5. Whereas the role of the Pharmacist in patient education is increasing, and

Whereas the Pharmacist is the health expert on prescription drugs and has traditionally been the source for such information,

Therefore Be it Resolved that the Maryland Pharmaceutical Association encourage patient information systems which include reference to the Pharmacist as a source for information on drugs.

#### (Amended and Passed)

6. Whereas the Maryland Pharmaceutical Association is an organization of individual pharmacists; and

Whereas the word "Pharmaceutical" is an adjective that denotes a "thing" or "object" pertaining to pharmacy and the word "Pharmacist" denotes a person who performs drug-related health services; and

Whereas the present name of this Association leads some members of the general public and governmental agencies to believe the MPhA is an organization of drug manufacturers; therefore

Be it Resolved that the officers and Board of Trustees be directed to change the name of this Association to the Maryland Pharmacists Association.

#### (Tabled until next Convention).

7. Whereas the USP/NF is a compendium of merit to the pharmaceutical industry; however it does not extend its usefulness to the retail, non-manufacturing facility; and

Whereas the U.S. Pharmacopeial Convention is a business, it would behoove that organization to determine to their best management ability a method of obtaining profit without the government mandate that pharmacies keep on the shelf an unused text. Surely the successful management of the USPC publishing business, if properly managed, can provide for the financial well-being and continuation of the USPC.



Harry Hamet served as Vice Speaker of the House of Delegates and Chairman of the Resolutions Committee for the 1983 Convention.

Therefore Be it Resolved, not withstanding the hard work of the MPhA Committee on Required Publications, that the MPhA recommend to the Maryland Board of Pharmacy the withdrawal of the mandatory requirement for the USP/NF.

#### (Defeated)

8. Whereas the time allotted to the MPhA House of Delegates is limited; and

Whereas a mechanism for written reports is available: and

Whereas time should be conserved for members to discuss issues under "New Business,"

Therefore Be it Resolved that all oral Committee reports presented to the House of Delegates be limited to ten minutes.

#### (Passed)

9. Whereas the Board of Pharmacy can now take action on complaints leading to disciplinary action, and

Whereas the "subject of complaints" usually has no available advisor except an attorney,

Therefore Be it Resolved that an advisory group be appointed or an existing Committee be given the charge of being available to advise and help the "subject of complaint" if possible, and this service be made known to MPhA members.

#### (Passed and referred to Legal Counsel)

10. Whereas in community pharmacy practice the pharmacist is approached by his patient for more medication of an existing prescription when the refills have expired. In most cases the drug is a maintenance type of medication. Sometimes the prescriber or his agent is unavailable and sometimes it is the fault of the patient for not anticipating his prescription needs. Thus the health and welfare of the patient and the public is put at iconardy

Therefore Be it Resolved that a ruling be promulgated or legislation obtained to allow the pharmacist to

exercise his professional judgement to dispense needed medication of a refill, after an attempt has been made to obtain authorization from the prescriber, for a 72 hour period of time necessary when the prescriber will be available.

#### (Passed)

11. Whereas the current entry level Bachelors Degree in pharmacy does not accurately reflect the professional tasks and responsibilities the pharmacist is expected to perform, and

Whereas the Bachelors Degree may have an inhibitory effect on the interprofessional relationships of pharmacists as members of the health team, and

Whereas a more advanced degree awarded after the appropriate educational level has been successfully attained would be fundamental to address this situation,

Therefore Be it Resolved that the MPhA form a task force committee including all areas of practice to consider the appropriate entry level degree into the profession.

Be it Further Resolved that this committee explore methods for current B.S. pharmacists to attain this same degree.

Be it Further Resolved that the committee's report be presented to this House of Delegates at the next Annual Convention.

#### (Passed)

12. Whereas phenylpropanolamine is not considered by many Maryland pharmacists to be a safe and effective diet aid, and

Whereas these same pharmacists would not recommend this preparation to their patients who want to lose weight,

Therefore Be it Resolved that the Maryland Pharmaceutical Association write an official protest to the Thompson Drug Products Company to object the television advertisement which states "most pharmacists" recommend Dexatrim to their patients who wish to lose weight.

#### calendar



Sept 28—Balassone Lecture, Louis Sesti, Speaker Sept 19 (Sun)—NARD Convention - Las Vegas Oct 10–24—MPhA Fall European Trip

Oct 30 (Sun)—MPhA Dinner Theater at Toby's in

Columbia—Barnum
Nov 13 (Thurs)—Alumni Association Dinner

Meeting
Jan 18—MPhA Trip to Acapulco - Princess Hotel

Feb—BMPA Annual Banquet— May 5–10—APhA Annual Meeting - Montreal

SEPTEMBER, 1983

#### Executive Director's Report

David A. Banta, C.A.E.

This past year has been an exciting one for the leadership of the Maryland Pharmaceutical Association. Under the Presidency of Milton Sappe, the Association was able to accomplish most of the objectives which we had set out for ourselves. Many of these accomplishments are recorded in other reports. However, I would like to highlight a few events which I consider to be especially significant.

Your Association's office operations became much more efficient with the arrival last July of the new word processor. I can tell you it has made a tremendous difference in daily activities, such as mailing label generation and changes of address. While we have not yet tapped the full potential available to us through the use of this machine, I anticipate that in the future we will be able to conduct more vigorous membership campaigns as well as improve the accuracy and quality of the work we produce.

The Board of Trustees closely examined the endorsed Blue Cross/Blue Shield Health Insurance program which we offer to the membership. Currently we have about 500 lives enrolled in this program. The Board studied the possibility of changing to another carrier to improve service and lower rates. After consideration, however, the Board decided to remain with the current program while making some adjustments in the coverage and taking steps to improve the service our members receive.

A major goal of the past two Association Presidents has been the encouragement of pharmacists to run for political office. During this past election season, two pharmacists narrowly lost election to the Maryland General Assembly. There are signs that pharmacists are showing increasing interest in participating in the political process.

The Association's relationship with the Medicaid program has been uneven. We succeeded in negotiating with the Program on a Generic Utilization Incentive program which may go into effect in the Fall. The Telephone Eligibility Verification plan appears to be moving ahead over our objections. Many of you know of the battle that was fought over a proposed regulation which the program believed was necessary to stop the practice of prescription quantity splitting, but which we believed would have limited the pharmacists ability to make technical corrections. After lengthy dialogue, there appears to be a chance that this regulation may be reconsidered.

For some time, it has been suggested that the Association should engage in long range planning for the profession. I am very pleased that the beginning steps in this process were taken with a special Board Retreat, hosted by Trustee William Hill. I direct your attention to one of the Resolutions you will consider which deals with this subject. Two Resolutions which were adopted by this House of Delegates at last year's meeting have resulted in constructive activity during the year. The Special Com-

mittee on Required Publications met throughout the year and you have their report, and the Impaired Pharmacist Committee was formed and is now receiving referrals. I believe that the work of this last Committee may be one of the most important things that the Association has accomplished in the past twelve months. Clearly, the salvation of human lives and careers is worth our immediate attention.

This Convention itself represents a milestone for the Association. To my knowledge, this is the first time that the three pharmaceutical associations from Maryland, Delaware and the District have held joint meetings. I believe that such professional interaction is very beneficial. We are continuing efforts to realize the intent of a past House Resolution regarding joint meetings with the Maryland Society of Hospital Pharmacists.



Executive Director David Banta caught working just before the 1983 Convention Banquet.

The work in the legislature this year produced fewer results then we have come to expect from previous years. With a 30 percent turnover in the members of the Maryland General Assembly, many were not familiar with complicated health care issues. Education is an important facet of our lobbying effort. I believe that the effort and expectations of our legislative work should be examined very closely so that we might clearly identify our priorities and then assign the necessary Association resources to bring them about.

As many of you know, the Baltimore Metropolitan Pharmaceutical Association has joined with the Baltimore City Medical Society to establish a special program of assistance for those who are unemployed and ineligible for other assistance programs. I believe this to be a very positive and progressive step and will certainly bring favorable recognition on those who participate in this program.

I would like to mention an idea originally proposed by Mel Rubin. The Association may wish to examine the feasibility of establishing a Memorial Foundation which could serve as a vehicle for constructive services while providing an outlet for memorial expressions for pharmacists, family or friends who have passed on. This could provide another service for the membership and the pharmacy community at large.

It has been a very rewarding and fulfilling year for me personally. I sincerely appreciate the support and hard work of the Officers, Trustees, Committee Chairmen and the membership. This Association is capable of growing and continuing its tradition of innovation and progress. Thank you for allowing me to contribute to these efforts.

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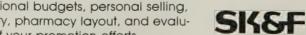
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#### School of Pharmacy Report

William J. Kinnard, Jr., Ph.D.

The past year has been an exciting one for the School of Pharmacy. The move into the new building for most of the faculty (Pharmacokinetics and Clinical Pharmacy are still in the old Dental-Pharmacy Building on Greene Street) meant enduring the trauma of the move of office and laboratories, which hopefully was balanced by the opportunity to utilize new and more efficient space. We continue to have manic-depressive mood swings, happy with much of the building, but occasionally showing despair when the central air conditioning system fails. The engineers have been trying to get the bugs out of the latter system, but there are days when the system offers the challenge of the Gordian knot.

Our academic programs have been under revision and development. The B. S. in Pharmacy curriculum revision has been completed after several years of work. The Pharm. D. program is under an internal review at the present time, and it is anticipated that the special faculty task force will complete its work in several weeks. The new graduate program in Pharmacy Practice and Administrative Science has been approved by the State Board of Higher Education at a recent meeting, and we already have three graduate students starting the doctoral program this fall.

The graduate program in Pharmacy Practice and Administrative Science will be supported by the largest group of faculty in this discipline in the United States, and the School just added Dr. Alan McKay to the group. Dr. McKay is a graduate of the University of Mississippi and has served as a faculty member at Mercer University in Atlanta. The doctoral program and the Master's programs in Community and Institutional Pharmacy will be part of the School's effort to expand its support of the pharmacy practice.

As was indicated in an earlier report to the M.Ph.A., the School is committed to developing programs which will be supportive of pharmacy practice. Frank Palumbo and others in the department have completed a major study involving drug utilization in nursing homes, and the data which is now being analyzed will underscore

the need for improved pharmacy services in such institutions. Don Fedder's work with community pharmacy has demonstrated a specific need for the kind of interaction between the pharmacist and patient that is good not only for control of hypertensive patients, but other chronic diseases as well. It is anticipated that that program will continue and will be expanded in the near future.

Dr. Ilene Harris, a June graduate of the Doctor of Pharmacy program will be joining the School to develop specific programs in community pharmacy that utilize clinical pharmacy practice concepts. As part of her charge, she will not only be evolving the services, but attempting to delineate their costs so that reimbursement mechanisms can be established for new services as they are developed.

The School reacted to a call for help from the State Department of Health and Mental Hygiene and agreed to take over pharmacy services in State psychiatric institutions. This spring a contract was signed between the School and the State to revamp pharmacy services at the first hospital to benefit from our efforts, Spring Grove Hospital. The Director of Pharmacy Service and the Associate Director for Clinical Services are presently being recruited and/or signed, and it is already apparent that a new pharmacy distributive system may well involve community pharmacists in the dispensing of drugs to outpatients.

Add to those actions the fact that Parke, Davis utilized our Elder-Ed Program as a foundation for its National Elder-Care program with community pharmacies. We anticipate a close relationship with Parke, Davis and will be providing significant amounts of the materials that will be utilized in the program.

On the matter of student enrollment, we graduated 80 men and women in the bachelor's program and 4 in the Pharm. D. program. Admission for fall 1983 classes have been completed. Eighty new students have been admitted to the B.S. program along with two students who were reinstated. The class contains 53% women and 13% black Americans. Of significance is the fact that the decline in applications has stopped and, in fact, this year applications were up over 6%.

The Pharm. D. program admitted its largest class (9 students) and we anticipate it growing to 15 students in the next one to two years, especially as we attempt to meet the market demands for our graduates. At this time there are two hospitals still looking for two Pharm. D. graduates to provide quality assurance and pharmacokinetic consults.

During the coming year we will continue to work in many of the projects already mentioned, but one of the other priorities we will have during the coming year will be the further development of our Center for the Study of Pharmacy and Therapeutics in the Elderly. This program has already attracted significant attention, and we anticipate the development of a major research program in this field.

SEPTEMBER, 1983 15

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#### Meet our 1983 Pharmacy Consultant Panel.



Lonnie Hollingsworth, R.Ph. Community Pharmacist Lubbock, Texas



Louis M. Sesti, R.Ph Executive Director Michigan Pharmacists Association Lansing, Michigan



Marilyn Slotfeldt, Pharm.D. Clinical Services Good Samaritan Hospital Portland, Oregon



Donald Hoscheit, R.Ph. Vice President, Pharmacy Osco Drug, Inc. Oak Brook, Illinois



Martin Lambert, Ph.D., R.Ph Community Pharmacist Knoxville, Tennessee



Stephen D. Roath, R.Ph. Vice President, Director of Professional Affairs, Longs Drug Stores, Inc. Walnut Creek, California



John Colaizzi, Ph.D. Dean, College of Pharmacy Rutgers University Piscataway, New Jersey



Paul Burkhart, R.Ph. Director of Pharmacy Services University of Washington Hospitals Seattle, Washington

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Carl Lyons, R.Ph. Institutional Pharmacist Tulsa, Oklahoma



Lawrence A. Diaz, R.Ph. Community Pharmacist Gainesville, Florida

sional and other pertinent matters are invaluable.

Their advice and counsel helps us serve you better in the expanding role of pharmacy.



## How to Review Your Pharmacy **Computer Contracts**

by William J. Skinner, Esq., P.D.

Presented at the 101st Annual Meeting of the Maryland Pharmaceutical Association, Ocean City, Maryland June 30, 1983

With the advent of micro-computers and mini-computers during the last five (5) years, a great number of changes are taking place in every day business activities. A large number of small business and professionals are going to the computer to aid them in their work. Often times the computer will take the place of certain personnel but more often the computer merely aids to extend the personnel and help do more work.

Pharmacy is seldom practiced the way it was in "Summer of 42" by actor Lou Frizzell portraying a nice white jacketed middle aged pharmacist behind the counter where he kept the supplies purchased by the young men in the movie. Today it is the computer that is behind the counter and the other supplies are on top of the counter. At the 1979 Swain Seminar in College Park we learned about computer systems for pharmacies. Again this spring, the Student APHA seminar at the Pikesville Hilton Hotel shed some further light in the computer area. For those of you that attended program on computers and nontradition home health services in March of 1979 you may remember that Dr. Arthur Nelson of the University of South Carolina spoke on the management implications of computers for community pharmacies and there was a display of computer equipment. Since that time, one of the companies that displayed equipment has discontinued the computer business. This is a typical event in the computer industry. Here today, gone tomorrow.

To give you further information about the volatile nature of the pharmacy computer business. I took a look at the November, 1981 article in American Pharmacy. Part of the article was the APHA Pharmacy Management Institute collection of the names and addresses of systems and suppliers of computers. There are 64 companies listed in that article and so for this talk today I wrote a number of companies requesting copies of their purchase agreements, maintenance agreements and sales contracts as well as any other material they would like to send. Out of 42 companies, I determined that 6 went out of business, one had discontinued the sale of its system (I mentioned this one had been at the Swain Seminar). One company said it would supply the contractual materials but did not (IBM), one company declined to supply because its market was in the midwest, and 8 companies responded with sam-

ples of their contracts.

Of those 8 responding, 3 of them were present at the March 1983 Pikesville Hilton program.

A few of these companies supplied me with a limited number of copies of brochure on their equipment and systems and I have promised to make them available to interested persons. You will find these materials on the counter at the conclusion of this talk.

To get into the meat of the subject of how to review a computer contract, specifically a Pharmacy computer contract, let me give you an outline of several particular

provisions in nearly every one of these contracts. There are 12 major clauses I would like to highlight that appear in most of the contracts and require your attention. These include the following:

- 1. "Merger" clause and parol evidence rule
- 2. Warranty disclaimer/fraudulent misrepresentations
- 3. Limitations on remedies
- 4. Governing law clause.
- 5. Delivery
- 6. Acceptance
- 7. Payments
- 8. Taxes
- 9. Maintenance/reliability
- 10. Software and software documentation
- 11. Confidential proprietary information (licenses)
- 12. Disclaimers, specifically related to professional practice

Of course nearly every contract has an "act of God" or a force majeure clause which lets the seller off the hook if there is a natural disaster or a war.

I will make a few brief comments about each one of the 12 points that I have mentioned but I must advise that every contract has to be read in its entirety and these comments do not apply to every contract I have reviewed. However, the general information I think will be helpful to you as you consider what to put in your pharmacy. Consult an attorney before you sign the paper, not after.

#### 1. Merger clause and parol evidence rule

Under Maryland commercial law, section 2-202 the

terms with respect to which a confirmatory memoranda have the parties agree or which or otherwise set forth in a writing intended by the parties as a final expression of their agreement with respect to such terms as are included therein may not be contradicted by evidence of any prior agreement or of a contemporanious oral agreement but may be explained or supplemented a) by course of dealing or usage of trade (section 1205) or by course of performance (section 2-208); and b) by evidence of consistent additional terms unless the court finds the writing to have been intended also as a complete and exclusive statement in terms of the agreement. AN. Code 1957, Art. 95B, §2-202, 1957, Ch. 49 §2.

Since that is the official language of the law of Maryland, it is obvious that when you come across a contract clause which says that this contract contains all of the agreement of the parties and there is nothing else intended to be or nothing else that exists that is a part of the contract of the parties, then what you have is a contract which is binding on both parties by its terms, no matter how the judge decides later, at the time of suit to

interpret those words. You may have one intent; the company a second intent; and a judge may rule you both meant something else.

Thus, it is important that you read every word of a contract and know what it means. More than knowing what it means, it is important that you watch revisions of contracts. Typically a contract will be given to you, you will be given time to read it and usually time to let your attorney read it. I suggest that you tell your computer salesman that you want to read it and have your attorney read it. Your attorney may recommend certain modifications and until you go back to the computer company with those modifications you don't know that they will be accepted. Sometimes when the modifications are given back to the computer company they will come back with completely new contracts. If you make the mistake of believing that all of your modifications have been incorporated in the second contract, you will end up having some dispute and you will be highly irritated because you did not read it or have your attorney review the second contract. The bottom line is, don't sign anything until you read and know what it means.

#### 2. Warranty disclaimers/fraudulent misrepresentations

Not all pharmacy computer software contains a drug interaction or warning system for the pharmacist. Nearly every contract states that the warranties are limited to those warranties that are written into the contract and on top of that the warranties usually exclude any kind of warranty express or implied, as to any part of the system not supplied directly by the seller. For example this disclosure would usually exclude software programs to detect drug interactions and contraindicated medications supplied by others or base on other data bases. In other words, where the programs supplies information upon which the pharmacist must make a professional judgment, there would be no warrantys guaranteeing the pharmacist will perform correctly. Take a look at the G/H contract for such an exclusion.



William J. Skinner presented a continuing education seminar on Pharmacy computer contracts at the 1983 Annual Convention.

#### 3. Limitations on remedies

Under the Uniform Commercial Code there are sections on rejection of acceptance, liquidated damages or contractural modifications limiting damages or limitations on bringing actions. Whether or not these are in the contract is important because if you have only so many days to do something and you let the time pass you are bound with the contract notwithstanding the UCC.

#### 4. Governing law clause

Generally the company that has written the contract will base its contract on the law of the state where their headquarters is located. This means that whenever a state law dealing with sale of equipment and services may differ from the Maryland law there may also be court decisions in that headquarter state which differ from court decisions in Maryland. Thus it is important to know if there are any big differences between the law of Maryland and the headquarters state of the company selling the computer system. This takes research and experience only an attorney could provide.

#### 5. Delivery

One of the frequent problems is some of the contracts do not specify a date for delivery. Other contracts do not specify even after physical delivery, when "actual" delivery is deemed to be accomplished. Some of the contracts state that the buyer is liable for paying costs for uncrating and setting up equipment when it is received. In addition, some of the contracts state that freight on board (F.O.B.) at the manufacturers headquarters is deemed to be the delivery. Therefore, if "delivery" is tied to a beginning payments schedule and there is a several day or several weeks delay in getting "actual" delivery and uncrating, then there can be serious difficulties in interpreting who owes what for when.

Further, some of the contracts specify that the buyer is liable for providing insurance coverage during transit of equipment from the manufacturer to the pharmacy. This obviously is an important consideration which could amount to a several thousand dollars loss if it is uninsured by the buyer.

#### 6. Acceptance

When does acceptance take place? Under the Uniform Commercial Code in the Maryland law at §2-608, revocation of acceptance must occur within a "reasonable time" after the buyer discovers or should have discovered the ground for it and before any substantial change in the condition of the goods which is not caused by their own defects. It's not effective until the buyer notifys the seller of it.

Nevertheless, while that is statutory language the contract may modify it by saying that if you don't reject acceptance of the item within ten (10) days then you can be held liable for it in total. One of the companys has specifically attacked this problem by offering you ninety days to judge for yourself. The important thing about that ninety day no-risk trial evaluation is that you must get it set up and really work it at for ninety days to determine whether or not the system sold by PAM computer systems of Dallas is something you really want to pay for. The PAM ninety day ap- proach, however, does give a pharmacist the opportunity to have one last three month chance of checking things out.

#### 7. Payment

Payments become due when you contract to make them. However, if the hardware of the computer system comes in on one date and a couple of weeks later, the software arrives but the whole thing doesn't get put together for 2 or 3 more weeks because of the lack of cables and a technician, then when is the purchaser obligated to pay? This is the kind of problem that can arise frequently in computer systems, due to no fault of the seller. Generally the contracts will state that failure of carriers to deliver is not their problem, but the buyers problem. Nevertheless, if the payment schedules are not geared to the time when the whole system is set and ready to operate, you can expect to have a period of six-months to a year of correspondence back and forth before you get the maintenance agreement, bills and other bills reduced to where they should be.

#### 8. Taxes

Almost without exception the taxes are passed on the buyer. This seems normal for hardware but when it comes to software taxes and you're buying software in the area of \$1,000.00—15,000.00 in some of these pharmacy computer programs, some jurisdictions such as the District of Columbia do tax off the shelf programs and exempt customized programs. Thus, if what you are buying is a program that has been used by a number of pharmacies, the question arises is it "off the shelf" or is it "a customized" program. In Maryland, if the software is part of the whole package, you'll pay tax.

#### 9. Maintenance and Reliability

There are a few companies such as PAM who offer a consolidated agreement covering equipment purchase, software license and support. In Freedom Data Systems agreement the pages are serially numbered and the parts separated by headings. Some companies offer a service arrangement within the general contract, but most companies provide a separate hardware maintenance and a license agreement for the software. Some, such as Norand Data Systems call it a On-Site maintenance agreement, others state that the software system has certain specifications which can be maintained as is or additional contracts can be purchased to keep the software improvements up to the state of the art.

In the micro-computer field most estimates for maintenance agreements run about 10% of the purchase price per year of the equipment. However, in this day of the personal computer store, the many companys are offering carry in repair prices. These can run less than 10% of the cost of the equipment.

In pharmacy computers you have another problem to deal with in terms of software. This concerns the use of updated pricing schedules and NDC drug code numbers and so on. As a result of the rapid changes in the drug item prices that are required to be dispensed by pharmacists, some of the computer software companys have gone into a monthly or twice monthly revision of price data and other coded information. All of this of course is supplied at a subscription price which varies from company to company.

Other than maintaining the quality of the program, pharmacists have to worry about the service organizations and the response time to get their computers repaired. Often times computers will break down and nothing can be done. If a head crashes, i.e., a hard disc loses its information, and the computer stops, you may be faced with nothing more than taking the time to put the data back in. Of course if your computer has no back up system to pro-

tect itself from headcrashes, when they do have them it can be a real disaster. Response time and cost of service is an important consideration. This should be gone over thoroughly before buying any computer.

#### 10. Software and Software Documentation

What was eluded to earlier to in updating the price information and national drug code information also applies to changes in computer programs. Let's suppose you have a system which puts out a prescription label, takes inventory of your drug stock, and simultaneously stores a tax record for the patient and a patient profile. But after you have had this system in effect for 3 months you have added a nursing home and you have to spend another \$1,500. For an additional program to produce daily medication charts and drug summaries for nursing home patients. For whatever reason, the addition of this new program to the system causes some malfunction in your retail system. Your contract has to provide for straightening out these problems at a definite fee, otherwise you are going to be faced with additional charges you did not expect.

These kinds of "bugs" can develop in a lot of programs. This is why it is important to select a tested and tried program or know exactly what you have to pay programmers and technicians to straighten out problems under your contract.

#### SAVE THIS ARTICLE IT COULD SAVE YOU MONEY

This is what is known as trade secret information or patent protection and indemnification. With the rapid changing world of computers, many people are preparing software which may or may not infringe on the patent of someone else. Should an infringement take place, you want your contract to contain an indemnification clause so that you do not get stuck with having to pay penalties for the seller who has violated someone's patent.

The other aspect of this which is important to look for is the licensing agreement. The license agreement lets you use someone's software for a fee. In other words software that is copyrighted cannot be used by other people without paying a fee. Unlike user groups in the microcomputer area, there are not yet many user groups in the pharmacy computer area, except those who might have developed something on a CPM operating system, 8 bit computer program. Thus you are going to have to sign an agreement which says that you agree not to violate anyone's copyrighted program agreements and therefore you cannot copy it and sell it to other pharmacists on the side.

#### 12. Disclaimer related to data bases

A final item I want to mention deals with this disclaimer problem again. The G/H Systems drug interaction disclaimer for example, gets rather specific and says that they used *Hansten's Drug Interactions* and the *APHA Evaluation of Drug Interactions* books and other sources and these sources have the greatest chance of being all inclu-

sive of those interactions which have the greatest clinical importance. But because things change and new interactions are discovered, there are no warranties expressed or implied as to the completeness or accuracy of the interactions. Thus, it is important to realize that in this area of the contract you must not rely on the computer to solve your professional judgment problem.

#### Size of Computer

Now a few final words about the kind of computer that the pharmacy needs. Can you get by with a micro-computer from the computer store? Will this kind of computer do every thing you need to have done? How big a computer do you need? A survey of the products available to pharmacists in systems with software indicates that the following hardware systems are used.

Freedom Pharmacy Systems uses a IBM System 23. It is apparently available with a 15.4 or 30.8 megabite hard disc. A 15.4 megabite hard disc system will take up to 17,000 patient profile records, 8,500 third party patient records, 68,000 prescriptions & 7,000 common file records.

The 3PM system utilizes a DEC 11/23 computer with 20 megabite disc storage and a 20 megabite backup. The Digital Equipment Corporation claims to supply 40% of all the computer market in the United States.

The MAI Basic 4 System of Columbia Maryland utilizes an 8 bit processor with 1.3 megabites of information. With today's needs in the pharmacy this does not quite cover it, but I am sure that additional equipment can be added to the systems supplied by that company.

The G/H Company uses DEC PDT 11 computer. This

unit uses a 20 megabite disc with a tape backup.

The General Computer Systems sold by the Clarksburg Drug Company indicates that the system will perform a great many functions which obviously requires a great deal of storage space. However the materials do not indicate the quantity of storage space available.

The Star Company of California indicates that a 15–25 Megabyte disc drive with a 1.26 Megabite floppy backup

is used in their equipment.

The National Data Corporation hardware does not indicate the exact storage capacity. Its program services however would indicate the 20 Megabite requirement would be necessary.

Auto Script of Connecticut uses a Digital PDP-11 and I would suspect that another 20 Megabites for storage

space would be required.

Thus, the answer to one of my questions is obvious. A micro-computer from the computer store will not solve the pharmacy computer needs. It is probably pointless to try to put together a micro-computer with a 20 megabite disc and a backup system and then find software to put the whole package together. There are simply to many problems and unknowns for an individual pharmacist even though he is a computer nut, to try to do this.

For somewhere between \$20,000–30,000 the average pharmacy ought to be able to buy a ready made system. The first thing to do in deciding what system to buy is to find out what the software programs will do for you. Once you have got the software problems oriented toward your needs, then the hardware will be easy to solve. The Digital, the Honeywell, IBM, and a number of other up and coming companies are putting together adequate packages for

pharmacies. A word of caution follows.

In the legal field it is estimated that a lawyer installing a micro-computer system in his office for word processing and client billing will have to spend at least 50% of the purchase price in his own time to learn how to use the computer. If you talk to your friends who have a computer,

they invariably tell you that their computer will do more than they have had time to make it do. The reason is they have not spent the time yet. I can see no reason for there being any difference in pharmacy. Thus, if you really intend to use the computer to its fullest extent for third party billing, drug enforcement records, patient profiles, drug interactions, annual tax receipts, and all the other goodies that are included in the program list and you pay \$30,000.00 for the system, then you must be prepared about \$15,000.00 worth of your personal time to learn how to use the system. Once you have learned it, that when the computer in the pharmacy starts paying the big dividends. That is when you start increasing your productivity and net profit without additional employees. That is when your customers are going to be coming back and thanking you for the convenience of being able to talk to you instead of watching you make all those handwritten records while they wait for their prescriptions to be dispensed.

Companies responding with contracts:

3 P.M., Inc. 1018 W. 8th Avenue Suite C King of Prussia, PA 19406

G/H Systems, Inc. 112 E. 32nd Street Joplin, Missouri 64801

Norand Corporation 550 Second St., Southeast Cedar Rapids, IA 52401

Clarksburg Drug Co. Box 2268 Clarksburg, WVA 26302 (General Computer)

Systems Technology Automated Resources, Inc. 1201 Flower Street Bakersfield, CA 93305

National Data Corporation One National Data Plaza Corporate Square Atlanta, GA 30329

AutoScript, Inc. 11 Mountain Avenue Bloomfield, CN 06002

PAM Pharmacy Computer Systems 13614 Midway, Suite 203 Dallas, TX 75234

The Prince Georges/Montgomery County Pharmaceutical Association regretfully announces the deaths of two Past Presidents:

Simon Zvares
Ansel W. Braden

SEPTEMBER, 1983 21



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Eli Lilly and Company Indianapolis, Indiana 46285



Vice Speaker of the House of Delegates, Martin Mintz, enjoyed the chicken and crabs at the annual Convention Crab Feast.



The Tennis Tournament was again a big favorite at the Convention with participation from all three Associations.



The District of Columbia Association sold a variety of T-Shirts at the joint convention as a fund-raising project



Aileen J. McKee has been assigned to the Eastern Shore territory for the Syntex Company.



Patrick M. Lockwood has been assigned to the Cumberland territory for the Upjohn Company.



Stuart Baltimore of the Maryland Blue Cross and Blue Shield Company discussed several important subjects with pharmacists at the Convention.

Pictures courtesy Abe Bloom — District Photo

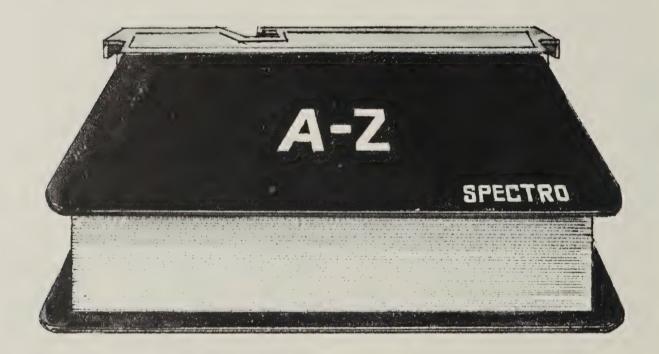
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## H. A. B. Dunning Award Established by APhA

The American Pharmaceutical Association's Academy of Pharmacy Practice (APP) has established the H. A. B. Dunning Award to recognize outstanding contributions of pharmaceutical manufacturers to the pharmacy practitioner. Announcement of the award was made by Academy Past President James J. Bensel, chairman of the APP committee that created the award.

The H. A. B. Dunning Award will be presented annually to a manufacturer for a single activity or contribution in the preceding year which is of direct assistance and benefit to pharmacy practitioners and which falls in one or more of the following categories:

- 1. Professional and consumer communications
- 2. Pharmacy practice support
- 3. Pharmacy education support
- 4. Sales policy to pharmacists
- 5. Marketing policies and philosophy
- 6. New drug research and development.

The new APP award is named for pharmacist Henry Armitt Brown Dunning (1877–1962), a long-time leader in pharmacy and the American Pharmaceutical Association, who served as chairman of the board of Hynson, Westcott and Dunning, a pharmaceutical manufacturer in Baltimore, Maryland.

Dr. Dunning was born in Denton, Maryland, on October 4, 1877, and graduated from the Maryland College of Pharmacy in 1898, after serving an apprenticeship in the pharmacy owned by his uncle. While a pharmacy student, Dunning was employed by Hynson, Westcott and Co., one of Baltimore's largest and most prominent professional prescription pharmacies. He went on to take graduate work in organic chemistry at The Johns Hopkins University, where he developed a number of original compounds and pharmaceutical products. In 1901, he became part owner of the pharmacy at which he had been employed as a student. Through his management, the firm expanded its prescription service and entered into the manufacture of well-developed specialties under the name of Hynson, Westcott and Dunning.

The firm which Dunning headed pioneered the commercial production of the dye, phenolsulfonphthalein, which contributed to the later preparation of Mercurochrome. The Dunning firm became known as a leader in pharmaceutical research and during his tenure, many important new preparations were placed on the market.

His leadership in the pharmaceutical industry was attested to by the many honors he won and the professional affiliations he held. Dunning was listed in Who's Who Among Association Executives, Who's Who in Commerce and Industry, Who's Who in Chemical and Drug Industries, and American Men of Science.

"Of all the men I know in pharmacy and the drug industry, Dr. Dunning occupies an eminence all his own," said Robert L. Swain, then editor of *Drug Topics*, on the occasion of Dunning's 80th birthday in 1957. "This is in recognition of his commanding personality, the record of his massive achievements, the significant impact of his influence throughout the whole pharmacy field, his rugged individualism and rigid sense of professional and personal integrity. . . . Dr. Dunning has played a leading part in every significant pharmaceutical undertaking over the last forty years or more."

Dr. Dunning was a member of the APhA for 60 years, serving on numerous committees, including the Council (now the Board of Trustees), and as president from 1929–1930. He was the recipient of the Remington Honor Medal in 1926. Dunning chaired all three of the committees whose efforts culminated in the construction of the present APhA headquarters building on Constitution Avenue in Washington, D.C., and he contributed generously to the building fund. He was also instrumental in the establishment of the Practical Pharmacy Edition of the Journal of the American Pharmaceutical Association, the forerunner of the Association's current flagship journal, American Pharmacy.

Presentation of the first H. A. B. Dunning Award will be made by the APP at the 131st Annual Meeting of the American Pharmaceutical Association to be held May 5–10, 1984, in Montreal, Canada.

Nominations of pharmaceutical manufacturers may be submitted by any member of the Academy of Pharmacy Practice no later than December 31, 1983. They should be in the form of a letter describing the single event or contribution for which the manufacturer is being nominated and should include a brief statement about how that activity or contribution assists and benefits the pharmacy practitioner.

Letters should be addressed to: Ronald L. Williams, Executive Secretary, APhA Academy of Pharmacy Practice, 2215 Constitution Avenue, N.W., Washington DC 20037. Final selection of the 1984 H. A. B. Dunning Award recipient will be made by the APP Executive Committee.

SEPTEMBER, 1983

#### "LOADS"

Cheryl A. Carouge and Dennis Dreyer Student Committee on Drug Abuse Education University of Maryland at Baltimore School of Pharmacy

Although information on the abuse potential of the combination of codeine and glutethimide (Doriden®) has been in print for over thirteen years, the problem has only recently received wide-spread attention. The June 10, 1982 edition of ABC's television news program, "20/20", featured a segment on the use of the combination, known on the street as "loads", now becoming a serious problem in California. Users report that the addition of the sedative-hypnotic, glutethimide, greatly heightens the euphoric effects of codeine. Some addicts claim that the euphoria they experience from loads is comparable to that produced by heroin; however, physical dependence and withdrawal from loads seem to be much more dangerous. On the "20/20" segment one user said, after experimenting with loads, "I got scared and went back to heroin." But loads may be more appealing than heroin because they are relatively inexpensive, more consistently available, and can be taken orally. Two doctors from a drug program in Los Angeles have gone so far as to say that they believe loads will become "the perferred narcotic of abuse" in time.1

The first report of combined codeine and glutethimide abuse was a single case published in 1969 from a New York City psychiatric clinic.<sup>2</sup> A twenty-four year old man had been using three to four ounces of codeinecontaining cough syrup (180-240mg of codeine) daily since age seventeen, but found that he could prolong his euphoria by also taking one or two grams of glutethimide a day. After several months, he increased the dosage to three or four grams of glutethimide and up to 480mg of codeine daily, which he used almost continuously for five or six years. The patient said he enjoyed a state of "calmness and serenity" from the combination, but one year prior to hospital admission he began having paranoid delusions and became depressed. A suicide attempt with ten grams of glutethimide was unsuccessful. The lethal dose of glutethimide is between ten and twenty grams, but can be much higher when

EDITOR'S NOTE: A recent call from a Maryland pharmacist to SCODAE's information center confirms that the use of the codeine and glutethimide combination is starting to appear in the Baltimore vicinity. Several prescriptions for this combination were legally obtained, recently, from unwary physicians in the Baltimore County area. Pharmacist and other health professionals should be on the watch for atypical requests for supplies of either glutethimide or codeine containing preparations.

(reprinted from PharmAlert, Volume 14, No. 1)

tolerance has developed.<sup>3</sup> The patient had been previously hospitalized for withdrawal, showing symptoms of anxiety, sweating, diarrhea, muscular spasms and rhinorrhea. In this case, he was withdrawn using chlorpromazine, methadone and glutethimide in gradually decreasing doses and experienced no withdrawal symptoms. The patient reported that codeine and glutethimide were being used frequently by many individuals he knew, and the clinicians seemed to think the combination had been in use for at least five years. Somewhat prophetically, they state that their report may "illustrate incipient widespread abuse of a new, euphoric combination."

The following year, a second report of codeine and glutethimide abuse was published from the Philadelphia area.4 Two patients addicted to glutethimide were admitted to the Hospital of the University of Pennsylvania for supervised withdrawal, and these two individuals served as a liaison to involve eight other addicts in a clinical study. Two of the subjects had been offered Doriden® tablets while under the influence of codeine and of Los Angeles in packets containing two 500mg Dorthey persuaded 30 to 50 of their friends to use it. The described the "high" as involving feelings of increased sociability and sharpness of insight, initially, progressing in several hours to a state of semiconsciousness, with amnesia and nodding. Tolerance seemed to develop primarily with glutethimide, requiring several subjects to take eight grams of glutethimide daily, or one tablet every few hours, to maintain their euphoria. Some individuals attempted to resensitize themselves to lower doses of glutethimide with a few days of selfenforced abstinence, but grand mal seizures requiring hospitalization occurred in several cases. In this study, patients were carefully withdrawn with decreasing doses of pentobarbital and methadone, yet two instances of grand mal seizure were reported. Four of the ten subjects rated high on the Depression Scale in personality testing (Minnesota Multiphasic Personality Inventory), but all refused psychotherapy.

In 1975, the original report of codeine and glutethimide addiction reappeared in the literature, with five additional cases described.<sup>5</sup> These patients were seen at the hospital for various complaints, including glutethimide withdrawal, barbiturate overdose, and depression. All were impressed with the codeine and glutethimide "high", describing it as "smoother and longer" (lasting up to eight hours) than some of the other drugs they had used. None of the five additional patients agreed to be withdrawn under medical supervision, and the patient who was withdrawn in 1969 began using codeine and glutethimide again soon after discharge. The author thought the cases suggested that "glutethimide addiction is potentiated by concomitant use of codeine." He concluded that the use of the combination was widespread throughout the New York City area, involving mostly young people, but of varying socio-economic backgrounds.

After six years of silence in the literature concerning codeine and glutethimide abuse, the problem resurfaced in a letter to the New England Journal of Medicine in July, 1981. Two doctors in a Los Angeles drug program reported that the drugs are now available on the streets of Los Angeles in packets containing two 500mg Doriden® tablets and four 60mg tablets of codeine. They noted a marked increase in admissions to their drug program for abuse of loads beginning early in 1981, although they had occasionally seen patients using the combination since 1977. They concluded that the use of loads will reach "epidemic proportions", especially if funding for methadone-maintenance programs is reduced. The problem is compounded by the fact that glutethimide overdose or requests for medical withdrawal cannot be handled at many detoxification centers. Because of the potential complications, such as pulmonary and cerebral edema, and the subsequently high mortality rate, glutethimide overdose is considered a medical problem. Patients who are turned away face potential coma, convulsions, respiratory depression and circulatory collapse.

Early reports of the use of loads identified users as mostly young people, firmly entrenched in urban drug sub-cultures. But according to ABC's "20/20" segment, the main users of loads in California are middle-income people who buy their codeine and glutethimide from individuals who obtain them on prescriptions and then offer them for sale. One pharmacy in particular was described as a "codeine mill" and was missing over 10,000 glutethimide tablets when inventoried. Already, there has been one death clearly due to overdose of codeine and glutethimide; a woman, aged thirty-eight, had obtained the drugs on prescription.

Although it is tempting perhaps to think of loads as a sporadic, isolated problem, it is wise for the medical community as a whole to be aware of the situation. Contact with users may occur as a result of exposure to overdosage, requests for withdrawal or convulsive disorders secondary to withdrawal, and especially, requests for a supply of glutethimide.<sup>4</sup> In patients receiving glutethimide for sleep disorders, codeine and other opioids should be used with caution, especially in the elderly.

In preliminary experiments using laboratory rats, we have shown that codeine and morphine analgesia are

significantly potentiated by glutethimide, but not by pentobarbital.<sup>6</sup> This finding may possibly be of benefit to terminal cancer patients in extreme pain. However, it seems from the case reports that addiction liability and complications during withdrawal or overdose are also enhanced.

In educating people to the problem on a nationwide level, the media may have inadvertently also sold a new, more socially acceptable, kind of "heroin."

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# American Association of Colleges of Pharmacy

The AACP Task Force on External Certificate and Degree Programs for Practitioners has completed two years of study and gave its final report to the House of Delegates at the Association Annual Meeting in Washington, D.C.

Based on its deliberations, the Task Force offered nine recommendations including that (1) AACP endorse the concept of extended education opportunities which by nontraditional means lead to degrees and/or certificates, provided such programs meet standards and guidelines for quality in force for traditional degree programs and (2) that colleges of pharmacy, singly or in groups, work toward committing the resources necessary to develop and implement external degree/certificate opportunities for practitioners. Other recommendations covered the conditions, mechanics, educational strategies and resources necessary to support program objectives and the needs of the adult practitioner-student.

The ten-member Task Force, co-chaired by Michael C. Shannon and Thomas S. Foster, was a joint effort of the AACP Sections of Continuing Education and Clinical Instruction.

Copies of the Report have been provided to each pharmacy school through their AACP delegates and the text will also appear in the Winter issue of the *American Journal of Pharmaceutical Education*. Non-members may obtain copies from the Association headquarters, 4630 Montgomery Ave. Suite 201 Bethesda, Md. 20814, with prepayment of \$3.00 to cover the cost of printing and handling.

### **ABSTRACTS**

Excerpted from PHARMACEUTICAL TRENDS, published by the St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor and Leonard L. Naeger, Ph.D., Associate Editor

### CHLORIDE CONCENTRATION AND RENAL BLOOD FLOW:

The chloride ion concentration in the blood has been found to have a specific effect on the renal vasculature. High levels of chloride ion apparently cause a progressive renal vasoconstrictor effect and a concomitant fall in glomerular filtration rate. This phenomenon seems independent of neuronal control and is potentiated by salt depletion. Thus far only the renal vessels have been found to respond in this way to chloride ion concentrations. *J Clin Invest*, Vol. 71, #3, p. 726, 1983.

#### **NEW ANTINEOPLASTIC DRUG CLASS:**

A group of drugs isolated from plants of the genus Podophyllum have been found useful for treating neoplastic growth in a small group of patients involved in a limited clinical trial. Two compounds, both manufactured by Bristol-Myers, have been used in Europe for several years. The new agents are more lipid soluble than vincristine or similar alkaloids, and act at the premitotic stage of cell division to inhibit the synthesis of DNA. *JAMA*, Vol. 249, #12, p. 1538, 1983.

#### **CHYMOPAPAIN:**

Chymopapain has been recently approved by the FDA for treatment of "slipped disks". The procedure for administration of the drug has been studied by neurological and orthopedic surgeons at various sites throughout the country. Dummy models are used to demonstrate the techniques and for practice sessions which follow. The drug breaks down cartilaginous protein polysaccharide thus relieving pressure and reducing back pain. Approximately 1% of the American public will experience a herniated disk sometime in their life. The preparation is obtained from an extract of the papaya plant. JAMA, Vol. 249, #9, p. 1115, 1983.

#### **DIABETES MELLITUS:**

Mature onset diabetes mellitus is genetically acquired as an autosomal-dominant condition in young people. Two families with this disease underwent extensive chromosomal analysis. It appears that this condition is not due to alterations in the insulin gene. Other yet unknown factors are obviously involved. *Br Med J*, Vol. 286, #6365, p. 590, 1983.

#### **REYES SYNDROME:**

Tissue from children who had died of salicylate intoxication was compared to that removed from patients who died of Reyes syndrome. In many cases it was impossible to distinguish the source of the tissue suggesting that salicylate may play an important role in the development of this condition. Others, however, are still not convinced of this association. *Lancet*, Vol. I, #8320, p. 326, 1983.

#### **ROCKY MOUNTAIN SPOTTED FEVER:**

Patients who are afflicted with rocky mountain spotted fever experience damage to the vascular endothelial lining which can lead to a reduction in intravascular volume, hypotension and edema. Over 50% of those with the condition also show symptoms of hyponatremia of unknown etiology. Antidiuretic hormone activity has been found to be altered in this state prompting clinicians to suggest that in addition to antibiotic therapy, rocky mountain spotted fever should also be treated with intravascular volume replacement. Ann Intern Med, Vol. 98, #3, p. 334, 1983.

#### **ASTHMA EXERCISE TOLERANCE:**

Patients with severe respiratory problems due to chronic airflow obstruction were given 15 milligrams of dihydrocodeine or a placebo 30 minutes prior to an exercise challenge. It was noted that when the narcotic was administered, patients were able to function longer on the treadmill without becoming breathless as compared to results obtained after placebo administration. No explanation of this phenomenon is presented. *Br Med J*, Vol. 286, #6366, p. 675, 1983.

#### NICOTINE:

Smokers have used nicotine-containing chewing gum to help relieve symptoms of smoking withdrawal. However, patients often experience nausea, vomiting and dyspepsia from these preparations. The gum may also stick to dentures thus making it inconvenient to use for patients with dental prosthesis. A new nasal solution containing nicotine has been found to be useful in these situations. Additionally, the plasma level of nicotine obtained from the nasal solution more closely corresponds to that seen after cigarette smoking. *Br Med J*, Vol. 286, #6336, p. 683, 1983.

#### **METOPROLOL:**

Metoprolol (Lopressor) was administered to patients who had just experienced a myocardial infarction and results obtained were contrasted to those obtained from patients receiving a placebo injection. The drug-treated group required less lidocaine than did the placebo group. Although metoprolol was not very effective against less serious ventricular tachyarrhythmias, it had a definite prophylactic effect against ventricular fibrillation in acute myocardial infarction patients. *N Engl J Med*, Vol. 308, #11, p. 614, 1983.

#### ADRENERGIC RECEPTOR REGULATION:

The exposure to beta receptors to exogenous or endogenous beta adrenergic agonists results in desensitization of the receptor to the effect of the catecholamine.

Steroids seem to have the opposite effect in that they have been shown to enhance the inotropic activity of cardiac muscle as well as the vascular response of arteriolar smooth muscle. When cell cultures were studied, it appeared that steroids attenuated the agonist-induced desensitization of the adrenergic receptors thus allowing catecholamines to maintain their activity. *J Clin Invest*, Vol. 71, #3, p. 565, 1983.

#### **WEIGHT REDUCTION:**

Obese patients tend to develop hypertension more readily than patients of normal body weight. Weight reduction often is accompanied by a reduction in blood pressure, but the mechanism of this response has not been studied. Investigators followed obese patients after a thorough examination was completed. They compared changes seen in patients who lost weight with those seen in patients who remained obese. Reduction of body weight was associated with a reduction in arterial pressure, circulating and cardiopulmonary blood volumes, venous return, and cardiac output. Patients not losing weight did not show any of these changes. Ann Intern Med, Vol. 98, #3, p. 315, 1983.

#### **ALPHA-2 RECEPTORS AND DEPRESSION:**

After childbirth there is an alteration in estrogen and progesterone concentration in the plasma which ultimately causes an elevation in platelet alpha-2 adenoreceptor binding capacity of those cells. Women who retain this high binding capacity after delivery experience maternity blues to a greater extent than do women whose binding capacity drops during the post-delivery period. Since some antidepressant medications seem to relieve depression and at the same time reduce the binding capacity of these platelets, investigators will study the association which might exist between platelet adenoreceptor binding capacity and depressive illness. Biochemical ways of objectively evaluating and monitoring depressive illness are generally lacking and would be very beneficial in following the progress of a patient on antidepressant medication. Lancet, Vol. I, #832, p. 495, 1983.

#### **COFFEE AND CHOLESTEROL:**

A large study conducted in Norway has led investigators to suggest that coffee can raise the level of cholesterol in the body. Patients were divided into two groups dependent on their coffee consumption. It appears that coffee increases cholesterol in the plasma independent of factors such as body mass, physical activity, cigarette smoking and alcohol consumption. The increases were related to increased coffee consumption. *N Engl J Med*, Vol. 308, #24, p. 1454, 1983.

#### **INFERTILITY AND VITAMIN C:**

Some men experience infertility because their sperm clump together. Non-specific sperm agglutination can be diagnosed microscopically. Studies conducted in men with this problem showed a deficiency of vitamin C. The vitamin was given in daily doses of 1 gram and the men were re-evaluated. Investigators found a higher concentration of normal sperm, better sperm viability, and increased sperm motility in men after the plasma levels of Vitamin C has increased to normal levels. *JAMA*, Vol. 249, #20, p. 2747, 1983.

#### ARTERIES AND COLLAGEN CONTENT:

The collagen content of arteries was measured from samples obtained from patients undergoing coronary artery bypass surgery. It was noted that smokers had a higher content of collagen in arteries and aorta tissue than did non-smokers. Smoking has been known to increase the risk of cardiovascular disease and this may be one of the mechanisms involved. *Lancet*, Vol I, #8233, p. 1070, 1983.

#### **ASPIRIN-TOPICAL EFFECT:**

People have used aspirin in form of gum, mouth gargles, etc. for its local anesthetic effect. Aspirin does apparently produce a local anesthetic effect while it is in contact with mucous membranes. The effect is short lived as it can be terminated by rinsing the mouth with water. *Clin Pharmacol Ther*, Vol. 33, #5, p. 479, 1983.

#### ETHANOL AND INFERTILITY:

Alcohol has been associated with male infertility. Animal models have been developed to study this phenomenon. It appears that ethanol reduces the fertility of the spermatozoa and the frequency of abnormal spermatozoa increases. The degree of involvement varies with the alcohol consumption and duration of exposure. The effects are well documented in males who chronically abuse alcohol. *J Pharmacol Exp Ther*, Vol. 225, #2, p. 479, 1983.

#### AIDS:

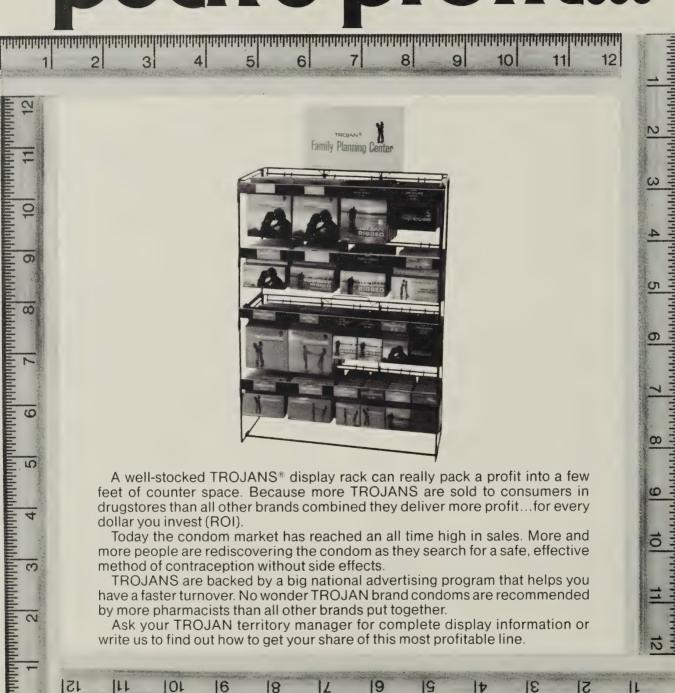
There has been an outbreak of acquired immuno-deficiency syndrome (AIDS), a condition which has a prodromal syndrome consisting of fever, weight loss, diarrhea, oral thrush, and lymphadenopathy. Later opportunistic infections and/or sarcoma may be found. It is not known how the condition is spread, but it does seem to be common in certain population subgroups. Recent studies suggest that the condition may be transmitted between heterosexual males and females as well as white homosexual males. The agent responsible for the spread of AIDS is being sought. N Engl J Med, Vol. 308, #20, p. 1181, 1983.

#### **NEUROPATHIC EDEMA:**

Patients with diabetes mellitus may experinece neuropathic edema caused by poorly understood mechanisms. Since blood flow is increased in affected limbs, vasoconstrictor therapy was initiated in four patients with this condition. It seems that ephedrine is effective for at least 15 months in reducing the edema associated with this syndrome. *Lancet*, Vol. I, #8324, p. 548, 1983.

SEPTEMBER, 1983 29

# Trojans packa profit...



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Official Journal of The Maryland Pharmaceutical Association

October, 1983 VOL. 59 No. 10



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Dear Fellow Pharmacist.

The practice of Pharmacy in Maryland has always been on the highest plateau. Much of the history and advancements in Pharmacy were made right here in the free state of Maryland; our new College of Pharmacy, the Pharmaceutical Association itself and its membership—are all fruits of the labor of Pharmacy in our state.

But, any great profession needs a great association to support and guide it. There are many Maryland Pharmacists out there, working long, arduous hours, that could still help their profession and they are needed badly to help meet the challenge that face us day to day. To that pharmacist, working long hours, with little time for himself, or his family, let me say that we desperately need your thoughts; need your support and need your membership.

Of all the challenges that face the Maryland Pharmacist, certainly, the so-called THIRD PARTY programs are the most trying and perplexing. There is a great need—at every level of pharmacy—to successfully deal with these growing problems which are a menace and threat to our professional and economical well-being.

In order to successfully deal with this challenge—cooperation is needed at the local, state and national levels. We need legal expertise and advice. We must ACT on these issues, instead of always RE-ACTING to a bad situation. Instead of the other fellow (Third-Party) always taking the initiative, we should be taking the initiative. We should be acting, and not reacting to programs they institute without consultation with our profession. A recent example: the Ford Motor Company started an optional mail order prescription program. While, the sleepless nights of Michigan Pharmacists may seem far away, we as pharmacists should ALL rise up and let Ford know how we feel about this. Let's let Ford know, while they think they "have a better idea"—we don't think so. We think it is a real Edsel.

I believe in a positive, united approach to all the problems of pharmacy. I am optimistic that the future of pharmacy is bright and will continue to attract young talented women and men.

Let's be united in our efforts. Keep in mind that 50,000 drugstores, representing 200,000 pharmacists throughout this great nation is a force to be proud of, and reckoned with!!!

William C. Hill, P.D.

PRESIDENT

# Capital Punishment—A Case for Compassion: Lethal Injection

by Pamela J. Cook Pharmacy Student School of Pharmacy University of Maryland

Capital punishment has always been a highly controversial field of inquiry with continuous debate returning to the same political, legal, moral and emotional issues. In spite of this, 38 states have re-enacted capital punishment statutes in response to the 72% of Americans advocating it. The electric chair, gas chamber, firing squad and death by hanging have traditionally been the principal means of exterminating criminals in the United States. American innovation, however, recently sparked new controversy when this nations's first execution by lethal drug injection was performed.

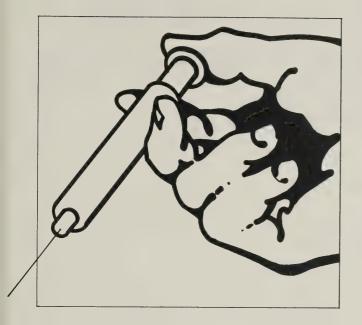
Opponents fear that death by injection is "only the last in a very long tradition of trying to make death by execution painless in order to pacify our own consciences." This, in turn, will perpetuate ready acceptance of the death penalty by juries and society in general-the impact being mass processing of the estimated 1,150 inmates now on death row. Opponents also contend that death by lethal drug injection may inflict excruciating pain or slow suffocation if administered to unfit candidates such as drug addicts, alcoholics, or obese people.<sup>2</sup> This possibility is unlikely if the procedure were performed with medical supervision, however, physician participation in a legally authorized execution has raised strong opposition from members of the medical profession. As Michael Nelson, M.D. of Amnesty International, U.S.A. expressed, "It's the prostitution of medical procedures, techniques, equipment, and drugs. These were all designed to relieve people of pain, not execute them." While the abolitionists have expressed legitimate concerns, the true significance of using lethal drug injections for executions in the United States must be considered.

It is generally known that court procedures and appeals leading to an execution are exhaustive and costly. The New York Defenders' Association estimated that the trial costs for a "typical capital-punishment" case totals about \$1.5 million before any appeals. This is compared to approximately \$1 million needed to maintain one inmate at San Quentin for 50 years. Whereas an increased public acceptance of execution by injection may reduce the time involved with exhaustive ju-

dicial reviews, it would not make a significant difference in expenditures. Executions by injection, could, however, offer other financial benefits to the state by eliminating the maintenance costs associated with the existing structures used for execution.

One might also consider another possible benefit to be derived from this method of execution: the possibility of using organs donated by those who have been executed. One would imagine that a prisoner on death row, presumably feeling remorseful over the deeds that put him there, would be only too willing to do something beneficial to society as one of his last acts. Many people would benefit by these donations who otherwise would never have had a chance to see through cornea transplants or to extend life as a recipient of a heart or kidney. Therefore, as distasteful as taking a life may be, here is some possible good that may be derived from execution by injection (which might not be possible by other methods which mutilate) to the extent that transplantable organs are not affected by lethal drug injection.

Legal and ethical considerations concerning use of drugs and participation of physicians are not well supported. The FDA confirms that state governments may use approved drugs even for unapproved purposes such as execution.6 The American Medical Association states that "... a physician, as a member of a profession dedicated to preserving life when there is hope of doing so, should not be a participant in the legally authorized execution." What exactly constitutes participation has not yet been established by the AMA. William Smith, AMA attorney expresses, "Execution involves only mechanical actions and the AMA does not prohibit anyone from using a specific mechanical action." The physician indirectly participates to determine if the veins are strong enough to accept catheter needles and to make a determination of death. A technician is actually responsible for preparation and insertion of the needles. Physicians are frequently involved with decisions determining when it is no longer feasible to maintain life by artificial means such as respirators and parenteral nutrition. In the case of a legal execu-



injection, or electrocution or by firing squad, how many death row inmates would elect death by the latter? This idea of a "more humane" execution also extends to the families of the executed. Death by injection will certainly cause less burden and mental anguish for the families and others closely associated with the executed person.

Americans, terrorized by violent crimes, believe that capital punishment is necessary for "social vengeance, the affirmation of civilization's standards, and the deterrence of future crimes." Social vengeance seems to be a natural human instinct-but to what end? Are we without any mercy such that we would be disappointed with a quick and painless execution? Our unique inventiveness in designing a "humane" execution to replace our extremely primitive methods has been long over-due. Execution by lethal drug injection should receive our immediate and thoughtful attention.

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tion, the decision has already been made and the outcome established. The physician's presence is only to ensure that the procedure is properly performed because a faulty procedure could result in excrutiating pain. Therefore, from a medical and indeed a moral viewpoint, it seems much more ethical to mandate the presence of a physician.

As violent crimes in the United States increased dramatically over the last two decades with a current rate of 9.8 murders per 100,000 people, a new advocacy of capital punishment was created. Because of this, the public has been quick to make legal decisions regarding the life of another who has been cast out of society as a miscreant, but there is hesitation in actually enforcing the death penalty. This constraint is probably perpetrated by the primitive means by which those sentenced must meet their death. Before any execution is carried out, the case is reviewed at all levels of the state judicial system. When, at this point, death is still the decided punishment, the execution should indeed by humane and more socially acceptable, even if only to relieve our own guilt. However, this is only an abstract consideration. A more important consideration concerns those who must pay for their criminal action with their lives. It is enough that these people must die at our discretion, but this punishment is no more complete by the deformation and mutilation inflicted by our traditional means of execution. If given a choice between execution by



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# Demographic and Medical Factors Associated with Adverse Drug Reactions

Dee A. Knapp, PhD Adjunct Professor by

David A. Knapp, PhD Professor

Susan M. Ilioff Research Assistant

The purpose of this study was to portray the demographic and medical factors associated with adverse drug reactions (ADRs) diagnosed as such by physicians during office visits. The data were obtained from a national sample of office-visit records.

#### Methodology

The elements for the analyses were taken from 1980–1 data collected by the US National Center for Health Statistics's (NCHS) National Ambulatory Medical Care Survey (NAMCS). Briefly, a random sample of nonfederally-employed physicians, primarily engaged in office-based, direct patient care in the conterminous US, completed patient encounter forms for a random sample of a week's office visits. The physician response rate was 79%. The physicians recorded responses to 15 items for each visit including the principal diagnosis and up to four new or continued medications prescribed/administered for the principal diagnosis. The physicians also recorded each patient's principal reason for the visit, as expressed by the patient.

NCHS coded the diagnoses using ICD-9-CM<sup>2</sup> which is an internationally accepted system of classifying diagnoses. We analyzed only those encounters whose principal diagnosis was coded as an unspecified adverse effect of a drug, medicinal, or biological substance when the substance was properly administered (code 995.2). We also translated the recorded drug names to their nonproprietary/generic name component(s); each active ingredient of combination products was treated as a separate drug entity.

#### Results

All results are expressed as national estimates for the conterminous US for 1980-1. There were 896,000 visits in which an ADR was recorded as the principal diagnosis, representing about 0.1% of the total of 1.2 billion office visits. Table 1 presents an analysis of the ADR encounters in relation to data on all office-visit encounters. For 36% of the ADR encounters, the physicians prescribed/administered antihistamines and/or steroids for the ADRs.

For 93% of the ADR encounters the patients did not state that an ADR was the reason for the visit. Instead, for 61% of the encounters they stated that the principal reason for the visit was a symptom referable to either the: (a) digestive system or (b) skin, nails, and/or hair.

TABLE 1

Distribution of ADR Visits Compared to All Visits for 1980–1 on Demographic and Medical Variables

Demographic/Medical Variable	% of ADR Visits	% of All Visits
Patients ≥45 years	70	41
Women patients	75	60
White patients	98	89
Non-Hispanic patients	98	96
Physician had seen patient before	89	86
Patient had not been referred by another physician  Physician was internist/general	98	96
practitioner	78	45
Physician was in solo practice	51	55
Time spent with patient was ≤15 minutes	73	73
Physician planned followup	83	89
Physician did not hospitalize patient	98	98

#### Discussion

It is highly likely that the ADR encounters surveyed by NAMCS were an underestimate, since a diagnosis of ADR depends on the physician perceiving and recording the adverse event as such. It is also important to remember that the more serious ADR cases would have presented directly to a hospital and would not have shown up in an office setting.

However, two results are of note. One, ADR encounters were more likely to involve older patients as compared to all encounters. This is probably related to the greater number of drugs prescribed for older patients (as shown by NAMCS data) which increases the likelihood of adverse reactions/interactions. Another associated finding was that the physicians seeing patients with ADRs were more likely to be internists or general practitioners as compared to the types of physicians for all encounters; but this is consistent with the older age group involved and the nature of the diagnosis.

Two, patients in the ADR encounters did not perceive their problem as an ADR but described it symptomatically, usually in terms of a digestive or dermatological problem. This latter finding is especially pertinent to the community pharmacist. Since the majority of patients diagnosed as having an ADR do not perceive it as such, this highlights the importance of performing patient assessment for possible ADRs when a patient complains to the pharmacist of digestive or dermatological problems or seeks medication for such problems. Under such conditions, the pharmacist would be the first health professional to discover that a patient probably was experiencing an ADR.

#### REFERENCES

- NCHS has produced a number of publications on NAMCS findings as well as detailed reports on its methodology, field procedures, statistical sampling and estimation, and public computer tapes. For information, write: Ambulatory Care Statistics Branch, NCHS, Center Building 2, 3700 East-West Highway, Hyattsville, MD 20782.
- 2. National Center for Health Statistics. ICD-9-CM. Ann Arbor, MI: Edwards Brothers, 1978.

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#### APhA Community Education Programs

The American Pharmaceutical Association's Academy of Pharmacy Practice (APP) has developed a series of three community education programs designed to help consumers and patients better understand the medications they take and what they can do to use them safely and effectively.

The three programs—the National Medication Awareness Test, the Health Check Test, and the Self Medication Awareness Test—are designed for presentation to community groups by pharmacists in their community and were developed with the support and cooperation of Lederle Laboratories.

The programs are slide-tape presentations in a question-and-answer format. Program participants are given score sheets upon which they mark their answers to the multiple choice questions presented during the audiovisual presentation. After the audiovisual portion of the program, the pharmacist presenting the program helps the audience "grade" their answer sheets by giving the correct answers to each of the questions and explaining, with the help of slides provided with the program, why the answers are correct. The pharmacist also answers any questions the audience has about information in the program.

Although similar in format, the three programs have different objectives:

- The National Medication Awareness Test focuses on information the patient needs to know about his or her medication, how to take it, and how it works in the body.
- The Health Check Test emphasizes the kinds of information the patient needs to take an active part in his or her own care and introduces a unique record-keeping system for prescription and nonprescription medications taken and other health care services received.
- The Self Medication Awareness Test stresses that nonprescription drugs must be selected and used with the same care that is exercised with prescription drugs and provides information the patient must have to determine if self medication is desirable, and if so, how to self-medicate safely and effectively.

A planning guide giving complete information on how to obtain and use the programs is available from: Academy of Pharmacy Practice, American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, DC 20037. Ask for "Community Programs Planning Guide" and enclose a self-addressed, gummed label to facilitate handling.

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# A Pharmacist's View of Third-Party Reimbursement\*

#### Introduction

These are uneasy times for pharmacy managers. They are particularly tough for those dependent to varying degrees on Medicaid to pay the bills. Rising drug costs and a soft economy are vying with each other to see which can tear up more pharmacy turf.

Public third-party programs are undergoing significant change. Budget limitations at both the federal and state levels are forcing program administrators to consider a number of options to reduce program costs. Popular choices include capitation reimbursement, limiting the number of prescriptions provided, competitive bidding, and even dropping drugs and pharmaceutical services altogether.

Bureau of Labor Statistics (BLS) figures indicate that drug prices—from the manufacturer to the whole-saler—rose 1.6% during Feburary 1982, while other commodities increased a modest 0.1%. The Wall Street Journal reported that the demand for MBA graduates is off more than 30% and that there are major pockets of unemployment opening up in the once-glamorous sunbelt. The Pacific Northwest has more than 15% unemployment, while Dun and Bradstreet is still reporting a business failure rate approaching that seen in the 1980's. We have all these problems and still we face the real possibility of more than a \$200 billion deficit in the FY 84 federal budget.

Under these conditions, a philosopher would observe that severe and prolonged hardships also produce beneficial outcomes: those that survive emerge stronger having endured the agony. But, the purpose here is not just philosophy; it is to examine third-party reimbursement from a pharmacist's viewpoint. And to ask the question: What is good for my patients and pharmacy?

#### The Patient-Pharmacist Dyad

The literature of every possession is repleat with considerations of what the relationship between client—or in our case, patient—and professional is and should be. Pharmacy is no exception. The task of identifying the essential elements of what may be called the patient-pharmacist dyad is especially complex, because of the dynamic nature of our profession in the last ten years.

Boiling it all down produced four elements, which I

\* By Bruce R. Siecker, Ph.D., Director, APhA Pharmacy Management Institute, and Professor of Pharmacy Administration, School of Pharmacy, Northeast Louisiana University, Monroe, LA 71209.

believe adequately describe pharmacists' ideals.

Pharmacists want all people to have access to pharmaceutical services. As a profession, we believe that universal access is essential for our society to attain maximum benefit and to achieve the best modern technology can provide.

Pharmacists also want to be paid for the expertise and service they provide. In the minds of pharmacists, service transcends the preparation and dispensing of a drug product. The profession believes there is intrinsic and demonstrable value in choosing the source of a drug product, monitoring drug therapy, and assessing drug regimens on an ongoing basis. As pharmacists, we see value for these efforts and want to be reimbursed for them.

On a more mundane level, pharmacists want a comfortable living from their considerable educational investment and professional efforts. And, while the definition of "comfortable" will vary from one pharmacist to another, "comfortable" probably translates into more than anyone is now getting.

Finally, pharmacists want exclusive domain over their professional activities. As with any profession, pharmacists do not welcome interference with prerogatives to decide on behalf of the patient's best interests. As pharmacists, we are apt to rail against third-party programs—or any outside interest for that matter—telling us which drugs will be covered, how many doses may or must be dispensed, and at what charge. Equally repugnant would be impediments to new forms of pharmaceutical services, if the reimbursement structure were inflexible.

Pharmacists, however, recognize that the practice of pharmacy exists within the broader fabric of everyday commerce, that there are many powerful, outside influences on the profession. Not all people have access to pharmaceutical services, and pharmacists are not generally paid commensurately with what they do and for some of the newer clinical services they are providing. Though pharmacist unemployment is less than the current national average of 8.8%, there are still too many pharmacists underemployed and underpaid.

Everyone in pharmacy is well aware of the diverse influences on the practice of pharmacy. Pharmacists are rightfully concerned about the problems facing the Medicaid program and how they can cope with worsening economic conditions. In many areas, the scramble is on just to survive, though a major segment of practice is still doing well.

#### The Critical Questions

But the more immediate question is third-party reimbursement. I have attempted to identify the critical question that pharmacy managers would ask about reimbursement systems. Together they represent a useful guide for assessing participation and educating legislators and administrators.

#### Who Pays Me?

The first question is: Who Pays Me? The question is important because the evolution of third-party programs has been a process of injecting a third component into the patient-pharmacist relationship. There is no innate reason why patients could not pay for prescriptions out of pocket, then submit a claim to the program in the same manner as pharmacists now do.

But, program officials—especially Medicaid administrators—argue that indigent patients do not have the wherewithal to put the cash out, then wait for reimbursement. There is also the problem of dealing with thousands more patients than pharmacy providers. Patients, it is argued, also often lose or forget to file claims and present claims that are incomplete, in error, or illegible. In addition, a third-party program would have much less control over expenditures while facing higher administrative costs.

Overall, pharmacists would prefer that patients pay for services then submit their own claims, rather than the way it is done today. This approach would be least disruptive to patient relationships and eliminate much of the administrative burden now faced by pharmacists.

The idea of having the pharmacist bill the program, however, is firmly entrenched in the third-party arena, and not likely to change. The only hope may be an overriding concern for cost containment by Medicaid administrators and the observation that many claims are never submitted when the program reimburses the recipient directly.

#### When Do I Get Paid?

The second question—When Do I Get Paid?—refers partially to the first question, namely, do I get paid when service is provided or do I wait? It also relates to how long it takes to get paid.

There is a distinct cost when a pharmacy must wait long periods for payment. The cost is particularly important when the time frame exceeds the normal cash cycle of the pharmacy, which traditionally has been thirty days, or the cost of money is high as it has been and continues to be.

The cash cycle of a pharmacy has been disturbed by slow credit payments and a tendency for wholesalers to adopt fifteen-day terms, or even five-day due dates. The effect is so dramatic that some pharmacists may prefer third-party programs that pay quickly, but at a lower rate of reimbursement, to those that pay more but more slowly.

#### What Do I Get Paid To Do?

The question is: What Do I Get Paid To Do? It refers to whether the program pays just for dispensing medicines, whether there is reimbursement for preventing a clinically-significant interaction, or whether there is payment for not dispensing, when not dispensing is in the best interests of the patient.

It is a particularly important question when considering emerging informational and clinical services. If the reimbursement structure is inflexible, there is a tendency for pharmacy managers to look at ways to reduce costs. Costs are reduced by doing less or doing what you do more efficiently. Rather than reducing services, pharmacists generally feel there are several valuable, newer services that need to be adopted universally. If reimbursement cannot accommodate new ways of doing things, it represents a significant source of frustration for pharmacists and loss to the consumer.

What do I get paid to do also refers to the reimbursement emphasis. Another way of saying this is: What causes me to get paid? Fee for services has been and continues to be aimed at treating ill patients. Capitation reimbursement, where pharmacists are paid x per patient during some period of time, is purported to be easier to administer and a cost-savings device. It also supposedly encourages an emphasis on patient health, rather than just treating illness as it occurs.

As with anything new and unknown and because pharmacists are justifiably wary of government's "solutions", capitation is being studied very cautiously. Whether it has a chance, while the rest of the medical care sector continues fee for service for episodic illness, remains to be seen.

#### How Much Do I Get?

The fourth question is: How Much Do I Get? It applies both to product cost and the dispensing fee, because most programs reimburse on these two levels.

Everyone is aware that the MAC and EAC programs are difficult cost screens that some pharmacists cannot meet. Each represents a potential loss, if the actual product cost exceeds the limit and a prescription is indeed dispensed.

The propensity for Medicaid to delay updating its product cost figures is another cause of lost reimbursement that pharmacy managers recognize and should take into account when assessing their participation. With net income only about 3% of revenue, it takes few instances of this kind of lost reimbursement to change the financial picture dramatically.

Dispensing fees are another matter. Since 1976, Medicaid has required states to conduct cost of dispensing surveys and to take the results into consideration is establishing the state's dispensing fee. Actual implementation of this requirement has been quite mixed.

There are some pharmacists getting only \$2.25 per

prescription—Pennsylvania, in fact—while others enjoy fees in excess of \$3.75 per prescription. In this regard, APhA has long argued that (a) pharmacy accounting records are generally inadequately developed and are therefore not reliable sources for dispensing cost surveys, and (b) Medicaid should be examining prevailing charges to the private, self-pay sector in assessing dispensing fees for the Medicaid program. Unfortunately, neither argument has prevailed as yet.

A final aspect of the amount of reimbursement is the "lessor than" clause and is familiar to all as a peculiar quirk of the Medicaid program. It is especially important to a pharmacy manager who prefers to base prescription charges on a system other than a single professional fee. In such a case, the pharmacy suffers a double whammy at both the bottom and top ends of the distribution of product costs.

#### How (Processes) Do I Get Paid?

Related to the level of reimbursement is: How Do I Get Paid? It focuses on procedures and related costs of getting paid after providing service. More elaborate claims procedures mean significant added costs, so managers find that they need to analyze the claims process while examining reimbursement.

In 1979, the APhA, in collaboration with the National Association of Chain Drug Stores, examined the added costs of participating in third-party programs. The study indicated a range of added costs of 19¢ to \$1.86 with an average of 67¢ per third-party prescription. Saying that these results are immaterial—as Medicaid administrators seem to prefer—in assessing reimbursement is not tenable. There are added costs and they do affect reimbursement!

#### How Much Confidence Can I Have in the Payor?

The sixth question is: How Much Confidence Can I Have in the Payor? It asks whether the program can be trusted to pay claims for services rendered in good faith, and whether the program has a high probability of remaining solvent for the fiscal year.

The heat is obviously on to reduce Medicaid expenditures. But, how far will a state go to do just that? The state of Maryland is illustrative. In Maryland, the Medicaid program toyed with requiring pharmacists to dial a toll-free number for each and every Medicaid recipient or risk claims denial. The pharmacist would touch-tone a series of identification numbers to a remote computer and then be given an authorization code if the patient was, in fact, eligible. No authorization code meant reimbursement was not guaranteed. The idea was to reduce ineligible recipients!

The problem of state treasuries running dry before the end of the fiscal year is a spreading problem. When that happens, pharmacists are often left high and dry. And it takes very few bad debts to turn a financially successful pharmacy into a loser.

#### How Much Interference in My Practice Is There?

Finally, the question is: How Much Interference in My Practice Is There? Pharmacists do not welcome outside, non-professional requirements to come between the patient and what the pharmacist feels is in the patient's best interest. To be judged ideal by pharmacists, a reimbursement plan should not affect how pharmacy is practiced nor how the pharmacy is operated.

#### **Analytical Considerations**

Naturally, decisions are not made in a vacuum. A pharmacy manager should look at third-party reimbursement in light of the percentage of third-party prescriptions, the mix of programs, and a pharmacy's dispensing cost vs. the program dispensing fee and actual reimbursement level.

Depending on how the numbers line up, a pharmacy manager will reach a decision to participate or not participate. That is an individual decision that depends on a variety of factors. Some do very well handling third-party prescriptions. Others are hanging on by their fingernails and find third-party programs an albatross that just will not go away.

The decision to participate or not participate in a third-party program is not an easy one. Reimbursement is certainly a major reason; one we have seen is not even simple itself. But, there is also the question of the public good vs. professional welfare. Whether professional responsibility requires one to go broke serving the patient, under the aegis of a third-party program, is a serious issue. Obviously, it is an assessment that each pharmacy manager must make individually and do make everyday.

#### A Concluding Snapshot

The federal government still has only the broadest view of where it wants to go with Medicaid program. The details are sketchy. It is not that they are not telling, they really do not know.

Pharmacists and other providers are understandably anxious about possible changes. They are happy or unhappy with Medicaid depending on where they fall on the cost curve, what state they are in, and what percentage of their practice comes from Medicaid.

Based on observations in Washington, D.C., and contact with the APhA membership, pharmacists seem to be most concerned about:

- (1) Prevailing reimbursement levels vs. what it costs to operate;
- (2) Reimbursement level for product costs, including the MAC program, EAC's, the lag in updating cost screens in the Medicaid computer, and the rapid escalation of drug costs;

(continued on page 13)

# Definition of Administration of Medication

from the Maryland Board of Nursing

Under the Nurse Practice Act, the definition of "practice of registered nursing" includes "execution of a therapeutic regimen, including the administration of medication and treatment". Similarly, the definition of "practice licensed practical nursing" includes "administer(ing) treatment or medication to an individual". "Administration" has been defined by the State Board of Examiners of Nurses as:

"the direct introduction to a designated patient of a single dose of a prescribed medication at a given time".

It is legal only for the nurse to take from a properly labeled container a single dose of the prescribed medication for a particular patient. Administration does not include dispensing of medications or the prescribing of medications.

Dispensing is governed by the Maryland Pharmacy Act. The definition of drug dispensing provided below is intended to assist the nurse in differentiating between administration and dispensing of medications.

"According to Swafford drug dispensing involves one of three things: (1) the issuance of one or more doses of a medication in containers other than the original, such as new containers being properly labeled by the dispenser as to contents and/or directions for use as indicated by the prescriber. (2) Drug dispensing is the issuance of medication in its original container with a pharmacy-prepared label that

carries to the patient the directions of the prescription as well as other information. And (3) drug dispensing occurs where the container carries a pharmacy prepared label and the container is intended for nursing station use in a hospital or nursing home."<sup>1</sup>

More specifically, to issue medication in a container which requires labeling and which is intended for other than immediate use is dispensing.

Prescribing is governed by the Medical Practice Act. Prescribing can be defined as designation of the use of a specific therapeutic agent. This action is not within the scope of practice of the registered nurse and licensed practical nurse.

If a nurse has questions regarding the functions the nurse has been asked to perform and their relationship to the Nurse Practice Act, he or she should contact the State Board of Examiners of Nurses.

<sup>1</sup> Creighton, Helen: "Law Every Nurse Should Know.", W. B. Saunders Co., 1975, p. 285

#### (Continued from page 12)

- (3) Delays in payment;
- (4) Dependability of the program in any given fiscal year: and
- (5) Whether there is even going to be a drug component in the Medicaid program after the Administration finishes its remodeling efforts.

How the profession fares will depend on many things. The battlefields have expanded to include all state capitals, as well as Washington, D.C., so broadbased support of state and national pharmaceutical associations is essential.

#### calendar



Oct 10–24—MPhA Fall European Trip

Oct 30 (Sun)—MPhA Dinner Theater at Toby's in Columbia—Barnum

Nov 13 (Thurs)—Alumni Association Dinner Meeting

Jan 18—MPhA Trip to Acapulco, Princess Hotel Feb—BMPA Annual Banquet

May 5-10—APhA Annual Meeting, Montreal

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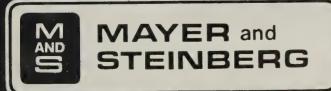
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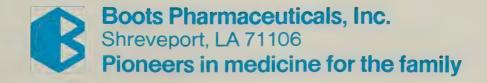
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# A Unique Color-Coded Unit Dose System

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Abstract. Color coding, a modification of the unit dose system concept, is described in the present report. The system's components are enumerated and comments are made as to their design and function. The auxiliary equipment, forms, and techniques that facilitate maximum efficiency and the utilization of the system from the time a medication order is written until the time the drug is administered are discussed and analyzed. The system is not only safe and efficient, but is probably readily adaptable to the unit dose systems at most medical centers.

The safety, cost effectiveness, and better utilization of health care personnel resulting from unit dose drug distribution have been well documented (1–27). However, initial implementation or complete conversion to unit dose has been reported only for slightly less than 50 percent of U.S. hospitals (28). More literature on implementation and improvements to unit dose systems is still needed. Advancement in drug distribution techniques will most likely be made by improving components of existing unit dose systems. Improvements should lead to a better overall system with increased efficiency and safety factors, a reduction in the overall cost of the system, and maximum utilization of health care personnel.

This paper, which describes a unique color-coded unit dose system (Chromadose<sup>1</sup>), supports these concepts.

#### Background

The Veterans Administration Medical Center in Baltimore, Maryland, is a 291-bed general, medical and surgical, acute care, teaching, and research center affiliated with the University of Maryland and the Johns Hopkins University. This medical center was 1 of 31 of 172 Veterans Administration medical centers initially selected for complete conversion to unit dose, intravenous admixture service, and individualized clinical programs. The methodology employed for the implementation of the latter pro-

grams was left up to the ingenuity and administrative persuasiveness of the individual pharmacy service.

By March 1979, the Department of Pharmacy Services at the Veterans Administration Medical Center, Baltimore, Maryland, had completely converted from a traditional ward stock system to its present color-coded unit dose system (Chromadose). The system's effectiveness is enhanced by electronic facsimile equipment (Telautograph²), which obviates personnel to routinely transport medication orders, a unit dose packaging machine (Unitpak³), limited miscellaneous supportive equipment, a cooperative and progressive staff, and a computerized hospital formulary which is strictly enforced.

Table 1. Color-Coordinated Time Segments

Color	Time Segment
Yellow	9:00 a.m11:55 a.m.
Green	12:00 p.m4:55 p.m.
Orange	5:00 p.m8:55 p.m.
Blue	9:00 p.m12:25 a.m.
Red	12:30 a.m8:55 a.m.
Gray	p.r.n. (as needed)

#### **Description of the System**

The Chromadose System is a color-coded unit dose system which safely, efficiently, and accurately correlates the profile recording, dispensing, and checking functions of the pharmacist with the patient profile recording, checking, and drug administration functions of the nurse. The basic equipment includes the unit dose cart, drawers divided into times of administration by adjustable color-coded dividers (yellow, green, orange, blue, red, and gray, respectively), and patient profile forms which allow for a matching system of color-coded doses. The exchangeable cassettes are color-coded orange and blue to serve as a quick indication that the cassettes have been changed for the day.

<sup>\*</sup> To whom inquiries should be directed.

The opinions or assertions contained herein are the private ones of the authors and are not to be construed as official or as reflecting the views of the Veterans Administration.

<sup>&</sup>lt;sup>1</sup> C&T Health Care Systems Corporation, Chromadose Division, Owings Mills, Md. 21117.

<sup>&</sup>lt;sup>2</sup> Copyphone III, Telautograph Corporation, Los Angeles, Calif. 90045.

<sup>&</sup>lt;sup>3</sup> Model #XL, Medical Packaging, Inc., Atco, N.J. 08004.

Table 2. Medication Administration Times

Dosage Regi	men	Time(s)
q.d.		9 a.m.
b.i.d.		9 a.m., 5 p.m.
t.i.d.		9 a.m., 1 p.m., 5 p.m.
q.i.d.		9 a.m., 1 p.m., 5 p.m., 9 p.m.
q.4h.		9 a.m., 1 p.m., 5 p.m., 9 p.m., 1 a.m., 5 a.m.
q.6h.		12 p.m., 6 p.m., 12 a.m., 6 a.m.
q.8h.		2 p.m., 10 p.m., 6 a.m. or 10 a.m., 6 p.m., 2 a.m.
q.12h.		9 a.m., 9 p.m. or 6 p.m., 6 a.m.
a.c.		11:30 a.m., 4:30 p.m., 7:30 a.m.
p.c.		12:30 p.m., 5:30 p.m., 8:30 a.m.
h.s.		9 p.m.
Exceptions:		
Tranquilizers	b.i.d	9 a.m., 9 p.m.
	t.i.d.	9 a.m., 1 p.m., 9 p.m.
Insulin Warfarin	q.d.	7 a.m.
sodium	q.d.	9 p.m.

The color-coded schedule is adjustable to a specific hospital's needs by designating convenient time segments for each color. At this medical center, the color-coordinated time segments indicated in Table 1 were selected. These color-coded time segments work out well based on the uniform hospital-wide administration times (Table 2) established by the pharmacy service in cooperation with the nursing and medical services and approved by the Pharmacy and Therapeutics Committee.

The same color-coded sequence in the individual patient's medication drawer is maintained as is on the patient's medication profile, since it is this matching process that greatly enhances accurate and efficient dispensing (cassette drawer filling), checking, and selecting of the drug for administration to the patient during a particular time period. The need to search through a large number of drugs scattered through a patient's drawer is eliminated; instead, one selects a drug from a limited number of drugs, all of which are to be given in the same time segment.

Three of a number of different preprinted forms (Figures 1–3) were selected for use at this medical center; namely, the Medication and Treatment Charting Form, the Emergency Interim Withdrawal Form, and the Reason Medication Not Given Form. The Medication and Treatment form is the only form that was modified slightly for our particular needs and convenience. One additional form not available from Chromadose, the Audit Sheet (Figure 4), is utilized by the staff. This form serves to identify the individual who filled and checked the cassettes, who made Kardex rounds, and who performed other patient care services on each medical center ward.

Upon admission of the patient to the medical center, a patient medication profile (i.e., Medication and Treatment Charting Form) is set up at the patient care unit, and a similar patient profile is set up in the pharmacy. The information is taken from the admitting orders of the patient's medication record, and a copy is transmitted by the facsimile equipment to the pharmacy. The basic information included in this admitting procedure are: the patient's full name, medical center location, identification number, physician(s), medical team number, admitting diagnosis, and allergies. The general procedure utilized in this system when a physician writes a new medication order in the patient's chart is as follows:

Figure 1. Samples segments of the Medication and Treatment Charting Form (Patient Medication Profile).

Figure 1A. Routine (Daily Specific Regimen) Order.

MONTH Janu		YEAR 1980	DATE	1	2	3	4	5	6	7	8	9	10
Methyldopa		yellow	1	4	4	4	4	4	4	ļ			L
FREQUENCY/FORM, RO		green	1		Ψ	Dos		ed					
QID START DATE	PO RENEW DATE	orange	1							D.C			
1/1/80	RENEWDATE	blue	1							1/7	/80		
DRUG NAME, STRENGT	ГН												
FREQUENCY/FORM, RO	DUTE												
START DATE	RENEW DATE	STOP DATE			-	-				-			-
DRUG NAME/STRENGT	TH .												
FREQUENCY/FORM, RO	DUTE												
START DATE	RENEW DATE	STOP DATE				-					_		

Figure 1B. Stat Order.

	STAT DOSES Phar	macist'
DATE	TIME DRUG STRENGTH/ROUTE	NURSE
1/1/80	8am Furosemide 20mg IV stat	P.K.
	:	
dvo	FORM 103C	

Figure 1C. Treatment (or Laboratory Test) Order.

TESIS TREATMENTS  Start late 1/1/80 Apply Tincture of Benzoin Renew to decubitis areas QID.  Date	Floor		3	5	6	7	8	9	10

Figure 1D. P.r.n. Order.

PRN's			TIME	1	2	3	4	5	6	7	8	9	10
1/1/80 Prop	oxyphene-N	gray	4	4	4	4	4	4	4				
100π	ng po Q6H prn										-		,
				1									
													- 1
		i			-			=					
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- The physician writes the medication order(s) on the physician's order sheet in the patient's chart and flags the chart to indicate that a new order has been written.
- The ward secretary electronically transmits a copy of the original order to the pharmacy by the facsimile equipment and then transcribes it to the patient's medication profile which is checked by a nurse.
- 3. The transmitted copy of the order is received by the pharmacy, and a technician transcribes the order to the patient's medication profile and sets up the drug for dispensing; the profile and corresponding drug(s) are checked by a pharmacist. Any problems or discrepancies are corrected at this point by communication among the pharmacist, physician, and nurse.
- 4. In all instances the order is recorded in the appropriate area of the profile card, depending on whether the medication order is routine (daily) p.r.n., stat, or a treatment (or test) order (Figure 1). The profile cards are color-coded to correspond to the location of the drug in the drawer; the drug is then placed in front of the appropriately colored divider. The only major difference in the nursing versus the pharmacy patient medication profile is that nursing service initials each dose administered, and pharmacy service indicates the number of doses dispensed for a 24-hour period.
- 5. If a medication order is one of the very limited number of floor stock medications (e.g., antacids, mouth rinse, back-rub lotion, etc.), it is recorded in the lower portion of the tests/treatments section (Figure 1) of the Patient Medication Profile and marked "Floor Stock" so that the pharmacist is aware of all medications being administered to the patient. The nurse reorders floor stock items by the use of a preprinted form which lists all floor stock items; floor stock is kept to an absolute minimum.
- 6. Bed lists and morning reports (gains and loss sheets) are transmitted to pharmacy service three times a day (8 am, 2 pm, and 8 pm) by the facsimile equipment so that the patient census can be updated in the cassettes to correspond to the current census on the respective patient care units.

Figure 2. Reason Medication Not Given Form—to account for any medication returned to the pharmacy.

REASON MEDICATION NOT	GIVEN
PATIENT	
AREA	
DRUG NAME	
This drug was not administered be	ecause (check one):
☐ Wrong drug or not ordered	☐ Patient expired
☐ Patient refused	☐ Discontinued order
☐ Patient not in room	☐ Other - Please explain
NURSE	DATE
NORSE	DATE

CHROM-A-DOSE

7. The cassettes are changed once every 24 hours at 8:30 am. The patient medication cassette drawers are updated at regular intervals as necessary throughout the day.

The unit dose cart that is part of the Chromadose System is efficient. It has considerably more positive features than negative ones. Basically the Chromadose cart is divided into four sections, three of which contain cassettes each having 20 conveniently sized drawers (4"  $\times$  11"  $\times$  2") and one section which contains two large drawers (a dual locking narcotic drawer and a nonlocking utility drawer). The cassette drawers are divided into individual patient drawers and stat medication drawers according to the needs of the medical facility. The only negative aspect of the cart that proved to be of any consequence was a malfunctioning of the wheels that hindered maneuverability; the manufacturer assisted in rectifying this problem by modifying them.

Figure 3. Emergency Withdrawal Form—to account for any stat medications used when the pharmacy is closed.

CHROMADOSE	EMERGENCY WITHDRAWAL ORDER	FORM 107 ©1974
PATIENT NAME		NUMBER
ROOM NO.	DATE	
DRUG NAME	FORM/STRENGTH	NO. DOSES
DATE WITHDRAWN	WITHDRAWN BY - NURSE	

#### **Summary and Conclusions**

This paper describes a color-coded unit dose drug distribution system. The many benefits that a unit dose system has over the traditional multidose (ward stock) system seem to be unquestionable to these authors. Their efforts were directed toward utilizing a better overall system than is commonly encountered in unit dose drug distribution. The authors feel that they were successful in accomplishing this goal.

The initial time-consuming process of adjusting to a new system was not much different than that which would be encountered with any new system. Color-coding Kardexes and dispensing in color-coded compartments seem to take longer initially than similar procedures in a conventional unit dose system, but this dissipates with usage and is now negligible. There was an immediate improvement in the ease of checking color-coded cassettes as ascertained by comments made by all staff pharmacists, each having prior experience with other unit dose systems. There seemed to be less stress on visual acuity when checking a large number of cassette drawers, especially when patients were on a large number of medications.

A survey of head nurses, who also gathered comments from their staff, elicited an almost immediate positive response as to locating (search time), setting-up, and administering the unit dose medication to patients. Both pharmacy and nursing services were pleased at the ease with which Kardex rounds (a check for discrepancies in interpretation of physicians' orders) could be accomplished. They were also pleased with the efficiency of the paper work (recording procedures) normally involved when drugs are administered to patients. Medical service staff remained somewhat conservative in their comments; this might be expected since they are only involved indirectly.

Figure 4. Audit Sheet Form—Outline of services performed; initials indicate individual performing function.

MONTH Jan. AUDIT SHEET								
YEAR 1980								
AREA Ward 2C	<del></del>		_	<u> </u>		ļ.,,		
MONTH/DAY	/1	/2	/3_	/4	5	16	/1	8
CART FILLED/CHECKED	CTF	KD/ BK	PP/ RM					
PHARMACY KARDEX ROUNDS	BK	BK	вк					
OTHER PATIENT CARE		D.C.	D.C.					
SERVICES (DESIGNATE)		Cons	ult/	BK				
MONTH/DAY	/9	10	/11	/12	/13	/4	/15	16
CART FILLED/CHECKED								
PHARMACY KARDEX ROUNDS								
OTHER PATIENT CARE								
SERVICES (DESIGNATE)								!

Their primary concern was getting the right medication to the right patient as soon as possible; this concern was shared by all members of the health care team. In fact, this system was designed to facilitate this concept.

Complementing the efficiency of the color-coded system are delivery of the cassettes once every 24 hours with continuous medication updating, the process of updating the patient census, the use of facsimile equipment to transmit physicians' orders, and a good indoctrination program.

It is the opinion and recommendation of the authors that the efficiency and safety of the Chromadose System would be further enhanced by the utilization of pharmacy satellites (decentralization) and computer technology; every effort is being made by the authors to obtain and combine these concepts. The benefits of decentralization (6, 10, 29, 30, 31) and computerization (32–35) in unit dose drug distribution systems have been documented in the literature.

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# Our best friends are our severest critics and our greatest assets.

#### Meet our 1983 Pharmacy Consultant Panel.



Lonnie Hollingsworth, R.Ph Community Pharmacist Lubbock, Texas



Louis M. Sesti, R.Ph Executive Director Michigan Pharmacists Association Lansing, Michigan



Marilyn Slotfeldt, Pharm.D. Clinical Services Good Samaritan Hospital Portland, Oregon



Donald Hoscheit, R.Ph. Vice President, Pharmacy Osco Drug, Inc. Oak Brook, Illinois



Martin Lambert, Ph.D., R.Ph Community Pharmacist Knoxville, Tennessee



Stephen D. Roath, R.Ph. Vice President, Director of Professional Affairs, Longs Drug Stores, Inc. Walnut Creek, California



John Colaizzi, Ph.D. Dean, College of Pharmacy Rutgers University Piscataway, New Jersey



Paul Burkhart, R.Ph. Director of Pharmacy Services University of Washington Hospitals Seattle, Washington

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We need the advice of pharmacists in order to do a better job for pharmacists.
The bad news and the good.

That's what the ten members of our 1983 Pharmacy Consultant Panel provide Their views on profes-



Carl Lyons, R.Ph. Institutional Pharmacist Tulsa, Oklahoma



Lawrence A. Diaz, R.Ph. Community Pharmacist Gainesville, Florida

sional and other pertinent matters are invaluable.

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Clues to Impairment in Pharmacists

Recently the Maryland Pharmaceutical Association in cooperation with the Maryland Board of Pharmacy has established a *Committee for Impaired Pharmacists*. This committee is now accepting referrals from pharmacists and others where there may be a problem with drug or alcohol abuse. In order that you may be better able to recognize an emerging problem in a colleague or friend, we are publishing these clues from Charles L. Whitfield, Baltimore, Maryland, 1983. Although originally for use for physicians, we have modified them so they may be more appropriate in a pharmacy setting.



Clues to Impairment in the Pharmacist (Early Signs marked with \*)

#### Home and Family

\*Medicinal use of alcohol or drugs

\*Mood swings or inconsistency

\*Behavior excused by family & friends

Extreme temper

Heavy Drinking

Drinking or using activities more important than other activities

Children neglected, abused or in trouble, often with drugs

Fights, arguments & violent outbursts

Sexual problems

Withdrawal, isolation & fragmentation of social & family life

Family isolating itself from social supports

Financial problems

Spouse in psychotherapy or taking psychoactive medication

Lack of problem resolution Separation or divorce

#### Pharmacy

\*Overwork
Disorganized schedule
Spasmotic work pace
Unreasonable behavior
Inaccessible to patients &
employer
Prescription errors
Patient complaints
Frequent absences

Decreased workload & tolerance

Frequent days off for vague reasons

Taking sexual advantage of co-workers or customers Filling illegal prescriptions

Taking and/or using drugs from pharmacy without a legal prescription or without follow-up by a physician

Taking and selling drugs to others or giving them to family or friends

#### **Employment Applications**

Frequent job changes or relocations
Unusual medical history
Vague letters of reference
Inappropriate qualifications
Time lapse unexplained in work
Inappropriate job now
Refusal of physical exam or spouse interview

#### **Physical Status**

\*Insomnia

\*Personality & behavior changes

\*Amnesias

Multiple physical complaints & Illnesses

Frequent ER visits & hospitalizations

Inappropriate tremulousness or sweating

Poor hygiene & appearance

Long sleeves in warm weather

#### Pharmacy

Often late, absent or ill Decreased work performance

"Pharmacy gossip"
Unavailability

Alcohol on breath while in pharmacy

#### Friends and Community

\*Neglected social commitments

\*Embarrassing behavior Personal isolation Overreaction to criticism Exaggerates work accomplishments & finances Drunk driving arrests

Legal problems
Neglected social commitments

Lessening of ethical values Unpredictability or unreliability

Call (301) 727-0746 for information or referral service for the Committee on Impaired Pharmacists. The Committee is active and taking referrals.

# Materials Available from ACS

William R. Grove, M.S.
Director, Clinical Research Pharmacy Service
University of Maryland Cancer Center
University of Maryland Hospital

During the course of a usual day, everyone comes in contact with people who either have one of the hundred or more different types of cancer, a family member, or their friends. Pharmacists, because of our role in the health care team, undoubtedly interact with many of these individuals each working day, and in fact, may be among them, as over 800,000 people in the United States are diagnosed with some form of cancer each year.

Because of the difficulty many people have in discussing their questions concerning cancer, a great need exists for information concerning treatment, diagnosis, detection, prevention, etc.

Along with many other programs administered by the American Cancer Society (ACS), a strong mission of the ACS is to provide educational materials to the public. In addition to the public service campaigns we are familiar with, such as anti-smoking campaigns, the ACS has available numerous pamphlets, brochures, films, posters, etc., each with a message directed toward public education of some aspect of cancer management, such as understanding cancer treatment, recognizing cancer's seven warning signals, teaching breast self-examination, emphasizing the importance of cancer prevention and early diagnosis, etc.

Many of these pamphlets would be welcome additions to the other public health brochures that are made available to the public through displays in community pharmacies. The following list is a portion of the 1982–1983 ACS Public Education Materials Catalog and illustrates the variety of materials available.

<u>Publications</u>	Code No.
Answering Your Questions About	
Cancer	2025
Cancer Facts for Men	2008
Cancer Facts for Women	2007
Facts on Bladder Cancer	2649
Facts on Brain Cancer	2648
Facts on Breast Cancer	2003
Facts on Cancer of the Bone	2652
Facts on Cancer Treatment	2650
Facts on Childhood Cancer	2081
Facts on Colon-Rectum Cancer	2004
Facts on Hodgkin's Disease	2092
Facts on Larynx Cancer	2631
Facts on Leukemia	2629
Facts on Lung Cancer	2628

Facts on Multiple Myeloma/	
Lymphomas	2657
Facts on Oral Cancer	2630
Facts on Ovarian Cancer	2046
Facts on Prostate Cancer	2654
Facts on Skin Cancer	2049
Facts on Cancer of Stomach &	
Esophagus	2655
Facts on Testicular Cancer	2645
Facts on Thyroid Cancer	2659
Facts on Uterine Cancer	2006
Cancer Quackery: Laetrile	2063
Cancer-Related Checkups	2070
Dangers of Smoking—Benefits of	
Quitting	2052
Endometrial Cancer	2076
The Hopeful Side of Cancer	2012
How to Examine Your Breasts	2088
How to Quit Cigarettes	2604
Quitter's Guide	2021
Tar and Nicotine Content of 176	
Varieties of Domestic Cigarettes	2636
Answers to the Most Commonly	
Asked Questions About Cigarette	
Smoking and Lung Cancer	2023
Posters	
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How to Examine Your Breasts	2123
Know Cancer's Warning Signals	2125
Pap test	2134
Quit Smoking Now—Before You	
Have to Quit	3401.06
Quit Smoking—The Lives You Save	
Could Be Theirs	3401.09
Best Tip Yet: Don't Start!	2114
Smoking Pollutes You and Everything	
Else	2104
12 Things to Do Instead of Smoking	
Cigarettes	2106
<u>Displays</u>	
How to Examine Your Breasts	2224
Literature Display Rack	2224
Too Much Sun!	2218
100 Much buil,	2210

Individuals wishing to obtain copies of these materials, or any of the other educational aids available should contact their local unit of the American Cancer Society.

OCTOBER, 1983



# SPDE ELIZABETH CLARK MOORE, Pharmacist

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Joe DeMino (far right), a University of Maryland Pharmacy Student, was one of four students that completed a ten week internship rotation through the Hoffmann-La Roche Company. Also shown are (left to right): Paul Chimenti, Virginia Sargavakian, David R. Harris (Director of Pharmacy Education and Communication for Roche), and Heidi J. Hayman.



The Association participated in the annual Southeast Regional States Convention this year held in Natchez, Mississippi. Shown here are (left to right) David Banta, Executive Director of MPhA; Sharon Fennell, Executive Director of the South Carolina Pharmaceutical Association; Paul Galanti, Executive Director of the Virginia Pharmaceutical Association; and Ken Couch, President of the SCPhA.



Eakle's Drug Store was presented with an award for filling its one Millionth prescription. Here John Miller (left), of Roche Labs presents the Award to Leon Catlet of Eakle's.



The staff of the Maryland Poison Control Center are enjoying their new home in the University of Maryland, School of Pharmacy Building. Staffed and run by Pharmacists, the Center continues to provide an invaluable service to the entire state.

This page donated by District-Paramount Photo Service.

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## **ABSTRACTS**

Excerpted from PHARMACEUTICAL TRENDS, published by the St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor and Leonard L. Naeger, Ph.D., Associate Editor

#### **BATTERY INGESTION:**

Approximately 800 small miniature batteries are ingested each year. A retrospective study shows that in absence of detectable symptoms, one should just allow the battery to pass spontaneously. *JAMA*, Vol. 249, #18, p. 2495, 1983.

#### ANGINA:

Coronary bypass surgety was performed on a group of patients with unstable angina pectoris. Surgical mortality rates were approximately 1.8% and the mortality rate was 2.5% during the first 4 post surgical years and 1.7% during the subsequent 5 years. Currently over 60% of those who have had the operation over 10 years ago are still free of angina symptoms, while 20% experience symptoms only on severe exercise. Bypass surgery seems to be a long term solution for patients with unstable angina. N Engl J Med, Vol. 308, #12, p. 676, 1983.

#### ETHACRYNIC ACID:

The molecular mechanism of action of ethacrynic acid is unknown although it has been noted to interfere with the active transport of sodium and chloride in the thick ascending limb of the loop of Henle. Some investigators have suggested the ethacrynic acid inhibits ATP synthesis and support their hypothesis with in vitro data. The authors of this article suggest that ATPase synthesis is impaired, not directly due to ethacrynic acid activity but secondary to a reduced demand for APT by the tissue. This decreased demand is thought to be produced by a more direct effect of ethacrynic acid on the transport mechanism. *J Pharmacol Exp Ther*, Vol. 224, #3, p. 594, 1983.

#### **6-MERCAPTOPURINE:**

Oral 6-mercaptopurine has been used to maintain remission of acute lymphoblastic leukemia. Studies show the drug to be poorly absorbed via the oral route and question the efficacy of this procedure. Alternate therapy needs to be investigated. *N Engl J Med*, Vol. 308, #17, p. 1005, 1983.

#### PLASTIC SYRINGES:

A group of 53 diabetic patients volunteered to reuse plastic disposable syringes for a one week trial period. Bacteriological and clinical assessments showed no problems arising during the time in any patients. Needles were changed if they became dull. Investigators feel bacteriostatic additives in the insulin help prevent contamination and suggest that patients may reuse their syringes to help reduce cost of insulin therapy. Lancet, Vol. I, #8324, p. 559, 1983.

#### NIFEDIPINE:

Raynauds phenomenon involves the sensation of coldness in the extremities and is thought to results from reduced circulation through the limbs. Increasing peripheral perfusion may be of benefit in patients so afflicted, so nifedipine (Procardia), a calcium channel blocking agent, was administered and patients were evaluated. Vasodilation exerted by nifedipine's action was beneficial in some patients, but not all responded favorably. This agrees with earlier reports of limited success with calcium channel blockers in patients with Raynaud's phenomenon. *N Engl J Med*, Vol. 308, #15, p. 880, 1983.

#### SEPTIC SHOCK:

Patients experiencing septic shock are frequently treated with aminoglycoside antibiotics such as gentamicin or tobramycin. Since thromboxane A-2 has been found to accumulate in this condition, cyclooxygenase inhibitors were used along with the antibiotic to treat animals with artificially-induced septic shock. Indocondition characterized by facial abnormalities, physraising the possibility that the inhibition of this system, and subsequent reduction in thromboxane A-2, may be a useful adjunct to antibiotic therapy in patients with septic shock. *J Pharmacol Exp Ther*, Vol. 225, #1, p. 94, 1983.

#### **CONTACT LENS:**

Patients have developed the habit of wetting contact lens in their mouth prior to use. This may allow for spread of herpes infection to the eye and thus the practice should be discouraged. *JAMA*, Vol. 249, #16, p. 2245, 1983.

#### **FETAL DEVELOPMENT:**

A large group of women were studied to determine the effect of alcohol consumption on fetal growth and development. Women consuming more than 100 grams of alcohol a week have double the risk of delivering an infant of low birthweight. This effect is additive to that caused by smoking. Ingestion of over 80 grams of ethanol per day can produce fetal alcohol syndrome, a condition characterized by facial abnormalities, physical and mental retardation, and other congenital anomalies. *Lancet*, Vol. I, #8236, p. 663, 1983.

#### **CAFFEINE:**

Patients suffering pain associated with uterine cramping, episiotomy, or third molar extraction were given either acetaminophen or acetaminophen in combination with caffeine. These investigators felt the combination product was more beneficial as an analgesic

than the use of acetaminophen alone. Clin Pharmacol Ther, Vol. 33, #14, p. 498, 1983.

#### AMPHOTERICIN B TOXICITY:

Amphotericin B has been shown to induce renal damage by limiting renal blood flow and reducing glomerular filtration rates. Studies suggest that the antifungal agent may act to cause vasoconstriction by allowing an increased permeability to the renal cells in the macula densa. Chloride ions subsequently enter and cause vasoconstriction thus reducing renal activity secondary to reduced perfusion. Adenosine is postulated to be involved directly with this mechanism as it can have partial renal vasoconstrictive activity in sodiumdepleted animals. To experimentally reduce the action of adenosine and the amount formed, a phosphodiesterase inhibitor, aminophylline, was used. Investigators found the xanthine derivative capable of preventing adenosine accumulation and subsequently protecting the kidney against the renal toxicity produced by the polyene antibiotic. It remains to be seen if this will have clinical relevance in patients receiving amphotericin B therapeutically. J Pharmacol Exp Ther, Vol. 224, #3. p. 609, 1983.

#### **ETRETINATE:**

Roche is marketing in some countries etretinate (Tigason). This substance is a synthetic vitamin A derivative which is effective when given orally. The substance acts to reverse the abnormal pattern of keratinization associated with certain congenital disorders. The drug may cause dermatological side-effects, so its use is restricted to hospitalized patients. *Drug Ther Bull*, Vol. 21, #3, p. 9, 1983.

#### **FUROSEMIDE:**

Infants with respiratory distress syndrome were given either furosemide (Lasix) or chlorothiazide (Diuril). Furosemide stimulates the renal synthesis of prostaglandin E-2, a substance known to be a potent dilator of the ductus arteriosus. Chlorothiazide had no such activity. It was concluded that furosemide increases the incidence of patent ductus arteriosus in premature infants with respiratory distress syndrome by allowing for increased accumulation of prostaglandin E-2. N Engl J Med, Vol. 308, #13, p. 743, 1983.

#### **METFORMIN:**

Metformin is similar to phenformin (DBT), a biguanide derivative with restricted use in the United thus improving control of blood sugar. Biguanide derivglucose uptake and to reduce hepatic gluconeogenesis. Closer investigation shows that metformin, and presumably phenformin, cause a rapid and protracted increase in the concentration of low affinity insulin receptors thus improving control of blood sugar. Biguanide derivatives act completely dissimilar from the oral sylfonylureas. *Br Med J*, Vol 286, #6368, p. 830, 1983.

#### CHLORPROPAMIDE:

Chlorpropamide (Diabinese) has been used for over two decades as an oral antidiabetic agent. Little has been published with respect to its pharmacokinetics. Interindividual clearance of the drug varies 30 fold, but the reasons for this variation remain unknown. Studies conducted in volunteers suggest chlorpropamide acts as an acidic substance in that acidification of the urine can cause retention of the drug by keeping it in the unionized state, thus it is more likely to be reabsorbed. Alkaline urine promotes removal of the drug. Oral administration of activated charcoal reduces absorption of chlorpropamide from the gastrointestinal tract. *Clin Pharmacol Ther*, Vol. 33, #3, p. 386, 1983.

#### **CARDIAC NEUROPEPTIDE:**

Adrenergic and cholinergic nerves regulate cardiac and coronary tissue responses, but recent investigation has disclosed the presence of a peptidergic neuron which liberates a neuropeptide in a single molecular form. The substance has been identified as neuropeptide tyrosine (NPT). *Lancet*, Vol. I, #8332, p. 1008, 1983.

#### **ANTIHISTAMINE:**

A new antihistamine is being used to help alleviate asthmatic symptoms in patients without causing drowsiness or sneezing. The new agent, tenfenadine, seems to produce good blocking activity without producing the classical side-effects generally associated with the use of H-1 antagonists. *JAMA*, Vol. 249, #23, p. 3151, 1983.

#### TOBRAMYCIN/NETILMICIN COMPARISON:

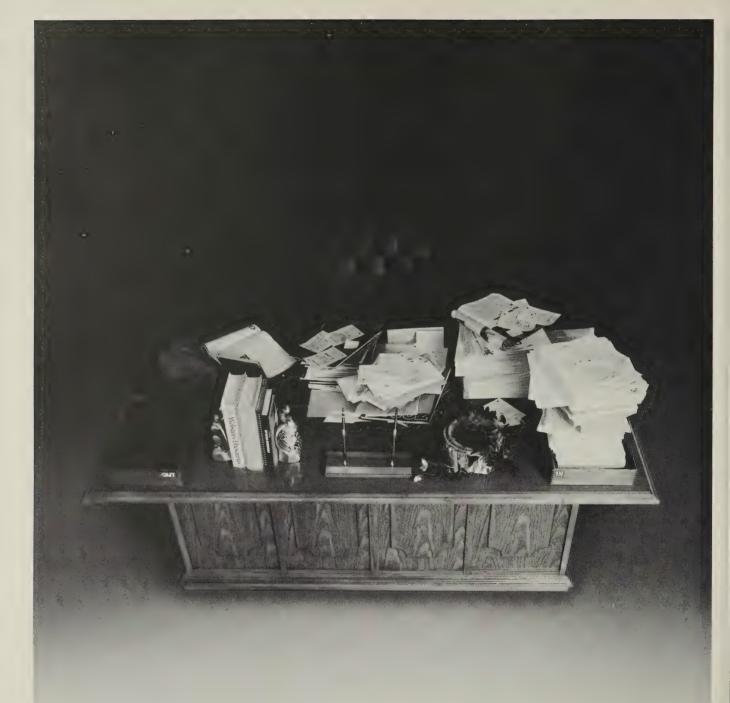
A controlled trial comparing tobramycin/carbenicillin and netilmicin/carbenicillin regimens was carried out in a randomized, multicenter study. Results of the blind experiment suggest that netilmicin therapy produces less ototoxicty and less renal toxicity than does tobramycin. *Lancet*, Vol. I, #8334, p. 1123, 1983.

#### **RIBAVIRIN:**

Ribavirin is an antiviral agent shown to be useful in treating respiratory synctial virus (RSV) infections in adults. A study using an inhaled form of the drug shows infants can benefit from inhalation of the drug. The double blind study demonstrated that infants receiving the drug experience significantly greater improvement from their illness and had better arterial oxygen saturation than the group receiving placebo therapy. *N Engl J Med*, Vol. 308, #24, p. 1443, 1983.



OCTOBER, 1983



### **Hidden Costs**

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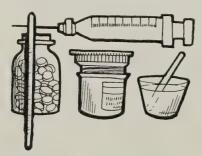
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## LETTERS

Dear Mr. Banta:

As discussed, I received a letter from Delegate Sheila K. Hixson in which she advises that, in her words, "druggists in the Montgomery County area are not notifying the people who submit prescriptions that they (the druggist) will be substituting a generic drug if the request is not made by the patient." I have discussed the entire matter with Delegate Hixson and advised her that the Association, Board, and this office would include in our respective mailout publication to the pharmacists a statement relative to this matter.

Section 12-508, Title 12, Subtitle 5 (grey law book, page 36) lists the mandates for substitution. Specifically 12-508(c)(1) states, and I quote:

"Notify the patient in writing that the drug dispensed is a generic equivalent of the prescribed drug product."

I have informed the Board that you have available on request a printed statement which can be given to the patient by the pharmacist at the time the medication is dispensed.

Charles H. Tregoe, Chief DIVISION OF DRUG CONTROL



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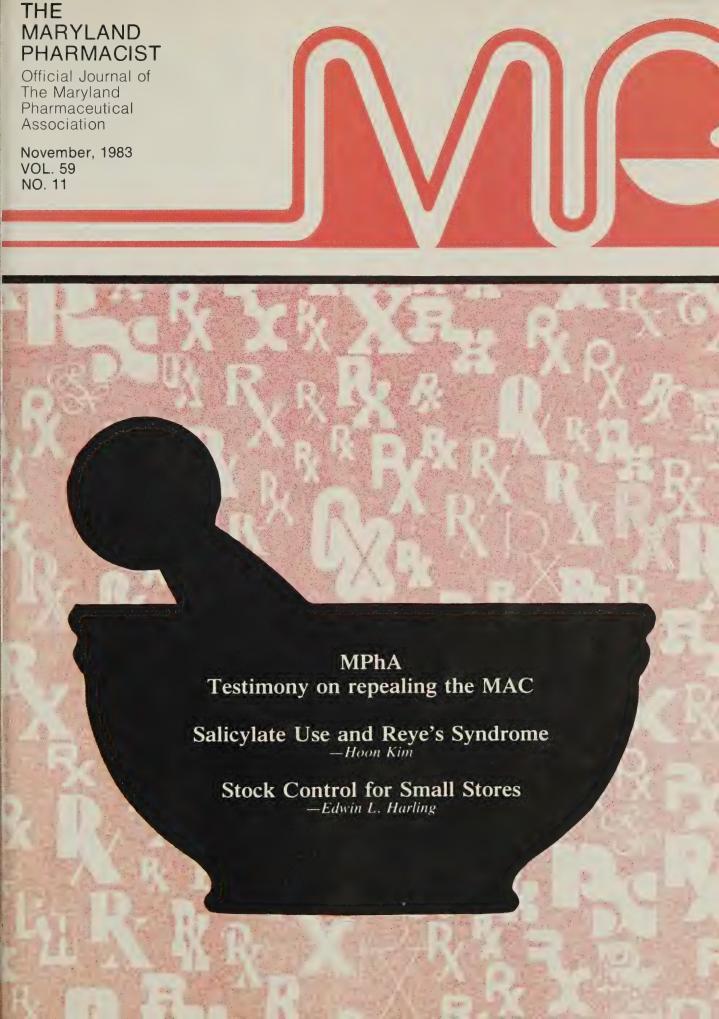
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# DUES are due



## MPhA Testimony on MAC

at

Department of Health and Human Services Public Hearing

on

"Reimbursement for Prescription Drugs under Federally Assisted Health Programs: Maximum Allowable Cost—Estimated Acquisition Programs and Related Policy Issues"

September 12, 1983 Washington, D.C.

Chairman Helms, members of the Task Force, I am David A. Banta, Executive Director of the Maryland Pharmaceutical Association, which is the state professional society of pharmacists in Maryland. I am also the President of the National Council of State Pharmaceutical Association Executives, which is the society of chief executive officers of the state pharmacy associations.

Members of the Maryland Pharmaceutical Association are engaged in all facets of the practice of the profession of pharmacy within the State. However, most of them are engaged in community pharmacy practice; either as pharmacy owners or employees.

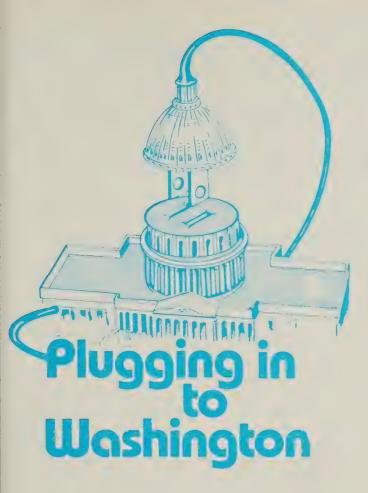
I will attempt to convey to you some of the concerns and observations we have regarding the "Maximum Allowable Cost" (MAC) program from my perspective. Pharmacists understand the Government's motivation to become prudent purchasers of prescription drugs for Federally assisted programs. As taxpayers and as dispensers of these products, we are keenly aware of the changes that have taken place in the market place with respect to these products. The MAC approach to this problem, however, has made the profession of pharmacy an innocent victim of cost-cutting that was illconceived. Real harm has been done to the traditional drug delivery system in this country and the potential exists for more harm if the MAC program is continued. My members tell me that the MAC program represents a clear and present danger to their practices. We urge you to promptly dismantle these programs.

While we understand the attempt to control the rising cost of prescription drugs, we do not understand why the Department has ignored the reimbursement plight of the pharmacists under the program; a plight that MAC's have worsened. Across the Country pharmacists and state pharmacy associations have been

frustrated as they watch their State Medicaid agencies wrestle with rising prescription drug expenditures which enjoy an automatic cost pass through; thus leaving little or no money left for an increase in the pharmacist's dispensing fee. Even in the face of demonstrated cost increases in the pharmacist's overhead, the state Medicaid agencies can not, or will not provide reimbursement adjustments. For example, in Maryland a year ago the Medicaid program completed a survey of about 50% of the pharmacies in the program to determine the cost of filling a Medicaid prescription as mandated by the MAC regulations. The results revealed that by December of this year it will cost Pharmacists on average \$4.04 to dispense a prescription. The current Medicaid dispensing fee is \$3.25 and the earliest it could be adjusted will be July, 1984. While our Medicaid reimbursement has remained stationary during this time, our overhead and inflation costs have escalated at well-publicized rates.

With this frustration as a backdrop, we also make a more global observation about the effects of the MAC program. We suspect that when a drug product is MAC'ed, that the affected drug company will naturally make an internal shift of costs to another product line that is still under patent so that their overall corporate financial stability is maintained. Since these products are, for the most part, all covered under the program, we wonder if there is any real cost savings to our society from the MAC program; especially as the costs to administer the MAC program are added.

More specifically, small volume pharmacies have difficulty purchasing drugs under the MAC limit. These pharmacies cannot meet required minimum quantities of purchase in order to be serviced directly by the manufacturer; and/or their wholesaler does not have a product line available at that level. Other pharmacists



must group purchases from a wholesaler or manufacturer in order to maintain volume purchases to remain competitive. These pharmacists cannot split a product from the group to shop for a single outlet which would meet the MAC limits. They would lose even more money than they do by just absorbing the lost difference between cost and reimbursement. In these cases the costs have been shifted to the pharmacist and whatever savings the program has realized has come out of the profit of the already struggling pharmacist provider. Prescription drug prices continue to rise for individual MAC drugs while the MAC limits remain relatively stationary. There is also the question of regional market

fluctuations and availability. These problems result in even greater losses and a further eroding of the pharmacists profit picture.

The MAC program is founded on the pharmacist's professional and legal ability to perform drug product selection. There are a number of hidden costs which are involved in this process which are not recognized nor reimbursed by the Medicaid Program. In spite of arguments to the contrary, drug product selection often results in increased and duplicated inventory stocks for the practicing pharmacist, with the resulting expense of maintaining that inventory. The use of generic drug products often results in the loss of, or decrease in the quality of the "return goods" policies. Drug product selection for the MAC program also results in additional expenses due to paperwork. For example, in some states an oral prescription for a MAC drug, when the prescriber requests the brand name product, will mean that the pharmacist must prepare the Medicaid claim form and then somehow acquire from the prescriber, in his own handwriting, the assurance that the drug was medically necessary. Pharmacists, who were the original champions of drug product selection legislation enacted on a state by state basis, are now beginning to question the wisdom of that change as the economic consequences become clearer.

These expenses cannot be ignored. As a higher percentage of the pharmacist's business becomes third party prescriptions plans, it is increasingly difficult to shift these costs over to private business. Escalating interest rates make borrowing prohibitively expensive. Delays in claims processing in these third party programs represents a further squeeze. Prudent buying practices no longer result in an economic incentive for the pharmacist as hungry third party administrators demand even that margin.

We believe that the network of community pharmacies, both chain and independent, which provide pharmaceutical services to the health care consuming public represents the most efficient delivery system for prescription drugs available to the Medicaid program. Pharmacies are intensely competitive on prescription drug prices and operate on an extremely thin net profit margin. Yet, they are also the most widely distributed health care professional service available to Medicaid recipients. There are pharmacies in large and small communities throughout this country. Pharmacy practice is an important aspect of the small business community which is the economic backbone of this country. We believe that the massive interference of the Federal Government through the MAC program into the delicate reimbursement balance of the Pharmacist is most destructive. The MAC program's original goal was to seek to reduce prescription drug costs to the Medicaid program; not to economically damage the pharmacist provider. But severe damage has resulted and it is time to put an end to the MAC program.

Thank you.

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# Salicylate Use and Reye's Syndrome: Are Contraindication Labels Necessary?

by Hoon Kim\*

Recently, results of several studies have indicated that the use of salicylate-containing products is linked to the onset of Reye's Syndrome in children who are ill with varicella or influenza. Reye's Syndrome (RS) is a rare and often fatal disease of children. It begins as a viral-like illness and, as the child apparently begins to recover, a relapse occurs with concomitant vomiting, confusion, delirium, and sometimes coma and death. The salicylate use may begin when the parent becomes concerned over their child's fever and administers aspirin or other salicylate-containing antipyretic preparations.

Four major case-control studies, one each in Ohio and Arizona and two in Michigan, were conducted by the respective public health departments. Each study showed a strong link between aspirin and RS.<sup>2,3,4</sup> The Committee on Infectious Diseases of the American Academy of Pediatrics carefully examined these reports and found that any biases which were inherent in the studies could in no way account for or rule out the association that was found. These studies were also examined by the Centers for Disease Control (CDC) and a special panel appointed by CDC. The conclusion of the CDC advisory panel was that the association appeared consistent enough that the use of salicylates should be avoided for children with viral-like illnesses. at least until the evidence is more conclusive. 5 Following the concensus of an advisory panel appointed by CDC, FDA and NIH, the Surgeon General advised health professionals against the use of salicylate-containing medication for children with influenza and chicken pox.6,7

Although FDA did not mandate the use of contraindication labels for salicylate-containing products, it did encourage their use. The Health Research Group, endorsed by the American Pharmaceutical Association, has made warning labels available to pharmacists (see Figure 1). The actual use of such labels has been left to the discretion of the individual pharmacist.

The suggested labeling caused a stir in the health field; many believed that the step was premature and should be preceded by a more complete investigation into the nature of the prodromal illness and other factors which may be responsible for RS.<sup>8,9</sup> The American Academy of Pediatrics advised a delay in the use of the labeling, yet still recommended caution in the use of salicylates. A recent issue of the FDA Drug Bulletin reported that further analyses of the existing data are being undertaken along with new studies but urges that caution be used in recommending salicylates to children who may be susceptible to Reye's Syndrome.<sup>10,11</sup>

This is an instance in which the health outcomes are extremely serious, perhaps deadly, and after considering the available information, it is my belief that contraindication warning labels should definitely be used on any aspirin containing preparations until any association between salicylates and RS can be invalidated, if, in fact, it can be.

There have been several occasions in the past when case-control studies have indicated an association of a symptom or disease with a product on the market and later the link was proved to be valid. For example, the association of tampon use with toxic shock syndrome led to a similar warning, yet there may have been less evidence for this association than there is for the RS-aspirin link. Other examples include smoking and its relation to lung cancer, and the association of diethylstilbesterol use in pregnancy with vaginal cancer in offspring. Each of these cases led to controversy within the medical community but eventually resulted in either discontinued use of the suspected agent or a severe warning to the public.

Salicylate-containing products are so common that parents will most likely choose one as an initial home remedy without being aware of the potential harm to which they may be subjecting their child. Studies have revealed that parents often are not aware of the contents of medication that they had given their children. Warning labels could lessen the unnecessary use of such products.

One problem lies in that only newly purchased products would carry the warning label; therefore, a more

<sup>\*</sup> Hoon Kim is a second professional year student at the School of Pharmacy, University of Maryland at Baltimore.

extensive warning program should be undertaken. This could be accomplished by the cooperation of pharmaceutical companies and local pharmacy organizations which could aid in educating the public on this matter. FDA is making educational material available on this subject and is promoting a more widespread information system. Despite what others decide, the pharmacist, without question, has a responsibility to warn his or her patients.

Another factor to be considered is that the antecedent illnesses involved (chickenpox, influenza, and others) are very common, as are the medications implicated (aspirin and related preparations). It will not be a rare occurrence for these two factors to touch many families simultaneously; consequently, the potential risk is significant.

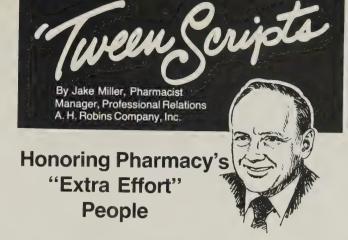
As mentioned earlier, several medical organizations have carefully examined the existing data. I feel confident that they have done so with extreme caution and that they would not recommend the use of warning labels without good reason. After such careful scrutiny of the available data, the time comes when some course of action must be taken even if absolute proof does not exist. This decision requires the judgment of health professionals.

The validity of this action can only be measured at some later time after it is known whether a decrease in the risk factor has decreased the occurrence of RS. If it should turn out that the association is invalid, then no harm has been done and if the association should be valid, then perhaps many lives will have been saved.

The information in this case is sufficient to warrant the action which was initially recommended by the FDA; that is, to use the contraindication labels. Perhaps Benjamin Franklin best expressed my sentiments when he said "an ounce of prevention in worth a pound of cure."

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Again this fall, current year recipients of the A. H. Robins "Bowl of Hygeia" Award, selected by their peers through their professional pharmacy associations in the 50 states, the District of Columbia, Puerto Rico, and the 10 Canadian provinces were invited to be guests of our company for a special salute in our Richmond headquarters.

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## Stock Control for Small Stores

By Edwin L. Harling Research Director Rich's Inc. Atlanta, Ga.

## Summary

Stock control is necessary if the small retailer is to offer customers a balanced assortment. A system need not be elaborate. It should enable the small retailer to determine what needs to be ordered on the basis of: (1) what is on hand, (2) what is on order, and (3) what has been sold.

The kind and amount of paperwork necessary for effective stock control depends largely on the type of merchandise. This paper emphasizes unit control. Unit control provides information about: breadth of assortment, depth of assortment, number of brands stocked, and quality of line stocked.

Maintaining effective control over stock is important in all kinds and sizes of retail operations, but it can be critical in a small one. At best, the owner-manager of a small retail store flirts with the loss when stock becomes unbalanced.

The type of merchandise you handle will largely determine the kind and amount of paperwork needed for effective stock control. For example, control of perishables—such as in a delicatessen—requires no paperwork. Stocks are controlled visually. Many deliveries—such as milk and bread—are daily, and others are frequent. In addition, the supplier's routepeople have a self-interest in helping keep stocks fresh.

But even so, the owner-manager may need some sort of reminder—perhaps a note on the calendar—to make periodic checks. The important thing is to watch for changing customer demands requiring changes in your purchases.

The situation is different, though, with parts inventory in a service operation and with sizes and styles in an apparel store. For example, the owner-manager of a shop that specializes in motor tuneup may keep track of the parts used every day with little effort. But what about those used only once a month? Some sort of record is necessary if the right parts are to be on hand when needed.

In shoes, ladies ready-to-wear, and other soft goods stores style, color, and sizes complicate the problem of stock control. A great deal of paperwork may be necessary in order to serve customers properly and to prevent over or underbuying.

### The Basic Picture

The owner-manager of almost any small store can sketch the basic picture of stock control. It involves four facts: (1) what you have on hand, (2) what you have on order, (3) what you have sold, and (4) what you need to order.

But whether or not these facts are used to achieve effective control is another story. A memory lapse on any of them can mean being out of stock or overstocked on an item, a style, a color, or a size.

## What Kind of Records?

Stock control records help prevent memory lapses. They estimate the need for carrying details—especially on style, colors and sizes—in one's head, a trying task. They provide a container into which the owner-manager can deposit details.

The kinds and number of control records which an owner-manager uses depend on the amount of details that are needed. Stock control systems may be achieved either by counting stock or by counting sales. Either way, a model stock list is required.

## The Model Stock List

A model stock list is the first step in setting up a replenishment system for merchandise that involves styles, colors, and sizes. You prepare a list of all the items you want to control.

The list should include "model stock" quantities. These quantities are the amounts needed in order to maintain an "in stock" position for a certain period—usually a number of weeks.

You can use a simple formula to determine the period of time to be covered by the model quantity. It is: Reorder Period + Delivery Period = Number of weeks.

Suppose that you order shirts every 6 weeks and delivery from the vendor takes 2 weeks, you number of weeks to be covered would be 8 (reorder period of 6 weeks + delivery period of 2 weeks = 8 weeks.) Suppose further that you sell an average of 10 shirts a week. In this example, you would need  $80 (10 \times 8 \text{ weeks})$  to maintain the stock of shirts.

When size is a factor, as in shirts, the necessary size run should be noted on the model stock list. You know from experience which sizes of an item are best sellers, which are medium sellers, and which are low sellers. Best selling colors can also be noted.

Some model stock lists—women's clothing, for example—include a special section. This section is called maintained selection items. Its purpose is to flag items that change with the fashion.

The term, "maintained selection items," implies groups of items which can be substituted for each other. Girls' blouses provide an example. When they reach the reorder point, you may need to order a new style to replace the old style. Examples of the selection item groups are infants' wear, and children's wearing apparel.

Merchandise of the selection type should be listed on the reorder records in groups by classification, item, and price. Such a listing will insure stocking a given price line at all times with proper merchandise. At the same time, it provides a record of the sales activity on the individual style.

## Counting Stocks or Sales?

Counting is the basis for getting the information necessary for effective control. You can count stock on a periodic basis or you can count it daily by counting sales.

Which is best for your situation depends on the kind of merchandise you carry and the amount of work involved for you and your salespeople. Your goal should be to use a method which will provide up-to-date information at the most economical cost.

## If You Count Stock

Your situation may lend itself to counting the stock on a periodic basis. If so, you would use what is called "the rotated method" and record the information on cards.

In the rotated method of stock control, you use rotated unit control cards. The format varies according to the kind of merchandise, but the kind of information is the same. With such a card, you keep track of an item, such as shoes by listing: (1) what is on hand, (2) what is ordered, (3) what has been received, and (4) what has been sold. Once every 2 weeks, the stock is counted to determine how well an item is selling.

If sales are dragging, you may decide to close out the item. If sales are normal, you would order fill-ins. On the other hand, the stock count and other information on the card may reveal that sales are greater than activity on the sales floor has indicated. If so, your decision may be to increase the filling order and plan to promote the item.

The principle behind the rotated method is: Old Inventory + Purchases - New Inventory = Sales. In this formula, you can substitute the word "disappear-

ance" for the word "sales." Disappearance represents shoplifting, inaccuracies in counting inventory, and sales.

## If You Count Sales

The other method for controlling stock is the perpetual method. In it, stocks are calculated from the store's recorded sales.

If you use this method, you have to keep track of sales when they are made, on an item basis. Its usefulness depends on whether the device you use captures the information with a minimum of effort and chance for error. The owner-manager with a fairly large sales volume should check the possibility of using a computer service center to count sales and create up-to-date stock records. Such data processing may be more economical than maintaining the records manually.

Even when electronic data processing is not used, cash register tape may be such a device for capturing the needed information. If a sales count is needed on only a few items, you could check the possibility of using your register to get the information. For example, "Key A" might stand for one item number, "B" for another, and so on.

Sales slips provide another device for recording the item sales. Still another is the price ticket which can be detached when the item is sold.

Whether the information comes from register tape, sales slips, or price tickets, it has to be related to your stocks, specifically to particular classes of merchandise. A drug store, for example, needs sales information on prescriptions, proprietaries, fountain, sundries, to-bacco, confections, magazines, and toiletries. The best way is to summarize the information and post it daily to your stock records.

These up-to-date stock records provide the information you need for ordering fill-ins. You review them on a periodic basis—once every 2 weeks, for example—and reorder as needed. One disadvantage is that errors can creep into the posting of the daily sales. However, adjustments can be made through a physical count of stocks every so often.

If you have only one or two items that need unit control, you might want to work with price tickets. At the time of the sale, detach the ticket and file it for later posting on your record. The balance on hand after the posting will determine what you need to reorder.

The principle behind the perpetual method is: Old Inventory + Purchases - Sales = New Inventory.

## **Preventing Excess Stocks**

In a small store, preventing excess stock serves two purposes. One is the maintenance of a balanced assortment which allows the store to serve customers. The other is the assurance that an excessive amount of working capital is not tied up in merchandise.

Open-to-buy is the key to keeping stocks in line.

NOVEMBER, 1983

Open-to-buy is the amount of merchandise (in units or dollars) that you need to receive into stock during a certain period.

The period may be the selling season that is customary for a certain line of merchandise. Or it may be a time-span that is set by the owner-manager to fit his or her particular situation.

At the start of the period, a merchandise classification—such as blouses—is open to receive the number of blouses that is necessary to achieve the sales you expect to have in that period. Suppose, for example, that you expect to sell 200 blouses. To start the season, you buy and receive 160 blouses. Thus you are open to buy an additional 40 blouses.

The 40 is your control figure when you order fill-in stock. As long as you buy no more than 40 during the season, your investment in inventory for blouses will be no greater than you had planned.

But what happens if customers make a run on the blouses? If sales activity is tremendous early in the season and you can get a new stock within the next several weeks, the question is a merchandising one. How hot is the hot item? Repeat it halfway? Or is it a freak situation that will have cooled off before new stocks can be received and promoted?

After you have decided how heavily to restock the item, you set a new open-to-buy figure. Living within it keeps your inventory investment within your plans and prevents an excessive stock which might have to be marked down at the end of the season.

A side benefit from stock control records is that they are helpful in delegating work. They provide concrete tools which you can use in training an employee to care about details, such as counting stock.

## calendar



Nov 3-6—SAPhA Region 2 Conference, Temple University, Philadelphia

Nov 17 (Thurs)—CECC Seminar—Gastrointestinal Disease—Holiday Inn Crowell

Nov 13 (Sun)—Alumni Association Dinner meeting—Martin's Eudowood

Jan 18-27—MPhA Trip to Acapulco

March 11—BMPA Annual Banquet—note March instead of February

March 18—AZO Berman Seminar

April 1—CECC Seminar—Critical Care

May 5-10—APhA Annual Meeting—Montreal

May 24 (Wed)—Alumni Association Graduation
Banquet

June 24-28—MPhA Convention—Ocean City, Md.

Every Sunday Morning at 6:30 a.m. on WCAO-AM and 8:00 a.m. on WXYZ-FM listen to Phil Weiner broadcast the Pharmacy Public Relations Program "Your Best Neighbor," the oldest continuous public service show in Baltimore.



A camera crew from the television program "Evening Magazine" visited the museum in the Kelly Building to film a segment of the program featuring Buffalo George.



Pharmacy as a career was the subject of the segment and the camera crew spent about a half-day filming the 3 minute spot. It will be shown locally and perhaps nationally.



Professional photographers occasionally request the use of artifacts from the B. Olive Cole Museum in the Kelly Building in order to take professional photographs such as this one.

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## SEMINAR TOPICS AND SPEAKERS

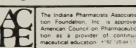
**Toxicology Update** — Tom Gossell, Ph.D., Professor of Pharmacology and Toxicology and Chairman of the Department of Pharmacology and Biomedical Sciences, Ohio Northern University.

Cancer Chemotherapy — William J. Dana, Pharm.D., Director of Drug Information & Clinical Services, University of Texas System Cancer Center.

Advising Consumers on Dermatological Disorders — Thomas A. Gossel, Ph.D.

**New Drugs** — Thomas A. Gossel, Ph.D.

**Diabetes Management** – R. Keith Campbell, MBA, Associate professor of Clinical Pharmacy, Washington State Univ.



**SECOND WEEK** 

Heart Diseases – Therapy Update – Eugene A.H. Magnie MD, FACC, Clinical Instructor, Univ. of Hawaii, School of Medicine.

Geriatric Medicine — Martin Higbee, Pharm.D., Assistant Professor of Clinical Pharmacy, Univ. of Utah, College of Pharmacy.

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## **Medicaid Memos**

## **Preauthorization Phone**

Regulation changes are now pending to increase the preauthorization dollar figure from \$50 to \$60 and eliminate the requirement for a preauthorization number for identical, follow-up prescriptions. Until these changes go into effect in December, 1983, the preauthorization phone will remain quite busy. The preauthorization telephone is one instrument with four incoming lines; therefore, the faster we can get the necessary information, the less time you may be on hold.

## \*\*\*PLEASE HAVE THE FOLLOWING INFORMATION READY\*\*\*

- 1) Name of pharmacy and store number (if applicable)
- 2) Pharmacy provider number (5 digits—lower right corner)
- 3) Recipient's name (Last name first)
- 4) Recipient's number (11 digits)
- 5) Physician's name and number (5 digits)
- 6) Product name and strength
- 7) Quantity dispensed
- 8) Days supply
- 9) Refills noted if any
- 10) Price—Usual and Customary
- 11) Prescription number
- 12) Date filled if other than date of call in

## Local Number 383-7716

## Outside Metropolitan Area 1-800-492-6008

The preauthorization telephone numbers are only for pharmacies; do not give them to recipients, social workers, etc., since unauthorized calls keep you on hold longer. Also, preauthorization is just that, do not save prescriptions to call in several at one time. When the preauthorization unit is closed and a number cannot be obtained, give the patient enough medication to carry them over until the next working day when you can call in.

Also, remember that oral contraceptives do not require preauthorization regardless of price and may be dispensed up to six cycles.

PLEASE POST THIS INFORMATION NEAR YOUR PHONE.

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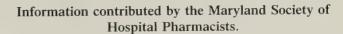
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The new program, The Pfizer Healthcare Series, appears in newspapers and magazines, and on television and radio. Because we recognize that a well-informed public is a better partner in healthcare, we address the most pressing health issues of the day. The series alerts people to risk factors and symptoms of major chronic diseases such as hypertension, angina, and diabetes. It encourages them to seek professional attention for problems that are all too often neglected.

Now available with our compliments We have prepared a laminated reprint of the Pfizer Healthcare Series on hypertension for display in your pharmacy. Also available are non-laminated versions of other messages on angina, diabetes, etc., currently appearing in the series. You can order them by filling out and returning the coupon below.









Larry Westfall Clinical Pharmacist St. Joseph Hospital

Use of phenytoin in intravenous infusions has been the subject of considerable controversy. Reports in the literature<sup>1,2</sup> and the manufacturers' professional information suggest that phenytoin should not be mixed with IV fluids due to its poor solubility. More recent data<sup>3</sup> support the use of normal saline (NS) as an acceptable intravenous fluid for phenytoin infusions<sup>3,4,5,6</sup>. Bauman et al.<sup>3</sup> found no crystallization in 4 hours and only 0.8% crystallization after 8 hours using 100mg phenytoin in 100 ml NS. Carmichael et al.<sup>5</sup> observed no visible precipitate after 1 hour using a phenytoin concentration of 4mg/ml. These results have been corroborated by others using a 24 hour study period and concentrations of 4.55mg/ml<sup>4</sup> and 18.4mg/ml<sup>6</sup>.

Using an inline filter with phenytoin infusions also have been addressed<sup>3,5,6</sup>. The concern was that microcrystals would form and subsequently be filtered out resulting in a diminished phenytoin dose. These studies conclude, however, that the extent of crystalization, if any, did not significantly reduce the amount of phenytoin delivered even when a 0.2 micron filter was used.

Systemic toxicity resulting from microcrystal formation does not seem to be a problem. Parke-Davis has no reports on file of any toxicity attributable to intravenous administration of phenytoin microcrystals. Unfortunately this does not necessarily mean that toxicities don't occur; it might mean that they have simply not been recognized. If these toxicities do exist, however, one would not expect them to be peculiar to phenytoin infusions. When phenytoin is used by the more conventional method of injecting the drug into an IV port near the patient, a cloudy precipitate is commonly noted to result. Furthermore, although not studied, it is likely that microcrystals form when phenytoin's solvent system is diluted following a direct intravenous injection.

There is an increasing amount of published data regarding the clinical use of phenytoin infusions and these studies attest at its efficacy and relative safety. Phenytoin infusions have been used to administer loading doses<sup>7</sup> (15mg/kg in 100/NS), maintenance doses<sup>8</sup> (300mg in 50ml/NS) and to treat status epilepticus<sup>9,10</sup>. Some of

these investigators have published recommendations for use that address both the pharmaceutical and clinical aspects of phenytoin infusions<sup>8,10,11</sup>.

The Parke-Davis Company does not advocate phenytoin infusions but feel that if it is used in this manner the smallest possible quantity of NS should be used as the IV fluid. The company is currently developing a phenytoin product intended for intravenous admixtures and anticipates marketing a 1-2 years.

At present, there appears to be ample literature support to make conservative recommendations on the use of phenytoin infusions:

- (1) Phenytoin to be diluted in 25-100ml of NS. (Do not use D5W)
- (2) Phenytoin concentration of 1-18mg/ml with the maximum infusion rate of 50mg/min.
- (3) Do not keep in refrigerator (this promotes crystal formation) and discard four hours after preparation.
- (4) Flush tubing with NS before and after infusion. Inline filter does not appear to be necessary.

## REFERENCES

- 1. Drug Intell Clin Pharm 1973; 7:418.
- 2. Drug Intell Clin Pharm 1973; 7:419.
- 3. Drug Intell Clin Pharm 1977; 11:646-9.
- 4. Am J Hosp Pharm 1981; 38:358-62.
   5. Am J Hosp Pharm 1980; 37:95-8.
- 6. AM J Hosp Pharm 1978; 35:45-48.
- 7. Am J Hosp Pharm 1981; 38:354-7.
- 8. Clin Pharm 1983; 2:135-8.
- 9. NEJM 1982; 306:1337-40.
- 10. JAMA 1980; 244:1479-81.
- 11. JAMA 1983; 249: 762-5.

## MSHP MEETING DATES FOR 1983-1984

November 10 St. Joseph Hospital
December 15 North Charles General Hospital
Franklin Square Hospital
February 9 Mercy Hospital

March 8 Greater Baltimore Medical Center
April 12 Howard County General Hospital
May 10 Baltimore County General Hospital

We welcome everyone and encourage anyone interested to come and join us at our monthly meetings.

## LETTERS



To: State Pharmacy Association Executives

From: Louis M. Sesti, Director Subject: mops PROBLEMS Center

As of July 1, the Ford Motor Company, headquartered in Dearborn, Michigan, has endorsed a mail-order prescription scheme ("mops") for its 292,000 workers around the country.

This action will likely precipitate similar actions by Corporate America in other states which will blindly follow Ford's lead.

The Michigan Pharmacists Association has established a mops PROBLEMS Center.

I ask your cooperation and assistance in what is obviously a national problem of significant proportions and dimensions.

Please publish—repeatedly if possible—in your Journal, your newsletter, in special mailings to your local/district organizations and to pharmacies in your state the message about this issue and the establishment of the PROBLEMS Center.

Please ask pharmacists to refer any and all patients utilizing the mail-order prescription scheme (mops) who experience any problem whatsoever to the PROB-LEMS Center.

They can contact the mops PROBLEMS Center by writing to Box 113, 815 North Washington Avenue, Lansing, MI 48906. The telephone number is (517)484-1466... collect calls will be accepted and a 24-hour answering service device will service after-hour inquiries.

The Center will serve as the national clearinghouse to log mops problems. It will also serve as resource central should any special assistance be necessary for the belabored patient.

Philip Caldwell Chairman of the Board Ford Motor Company American Board Dearborn, Michigan 48126

Dear Mr. Caldwell:

## PLEASE NOTE THIS LETTER IS ONE WEEK LATE. WERE IT YOUR PRESCRIPTION, THAT WOULD BE CRITICAL!

Ford dealers throughout the country would react to the news of a nationwide mail-order plan to buy Ford cars as pharmacists have to Ford's endorsement of a mail-order scheme to buy prescription drugs.

A copy of the Ford Motor Company announcement bulletin is enclosed.

Ford's logic in this decision is as incomprehensible as the action is totally reprehensible.

Independence Day 1983 marked the beginning of Phase I of the "GREAT AMERICAN SPEAK-OUT" against Ford Motor Company.

"Mail Order Prescription Schemes may be Hazardous to your Health" is the important message of one organization's public education campaign.

Our GREAT AMERICAN SPEAK-OUT focuses on the hazards of this decision by Ford:

- 1. The fragmentation of a responsible health care plan, which unto itself is a cost containment benefit.
- 2. The "bad neighbor" image Ford creates by this act, not only within the pharmacy family but in the communities across this country where the "hometown pharmacy" is a most trusted and readily accessible friend.
- 3. The potential corporate liability when essential services are unnecessarily delayed.
- 4. The potential for increasing drug abuse in a variety of "new" ways through mail-order prescription schemes.

The spirit of the mail-order offer is, "The more, the better!" This is an extremely dangerous theme when applied to drugs and the righteous concern for their proper use, not only in self-care situations but also as the incidence of accidental poisonings of children increase with larger quantities in the home.

Ford's image through this endorsement is tarnished. Its reputation will be corroded as the propensity for negative consequences increases, possibly equating drug abuse with Ford abuse.

In this era of multiple physician use—with one or more prescriptions per patient issued in over 60 percent of office visits—and the increasing use of nonprescription drugs, the correct direction is utilization control.

The pharmacy profession has dedicated considerable energies encouraging patients to use a single pharmacy for all their medication needs. The pharmacist is the pivotal health professional to prevent the hazards associated with multimedication use. The latest data reflects our goal is being achieved.

Ford's better idea is an anathema to the logic of this widely-accepted health strategy initiative.

Furthermore, the inferences about and against hometown pharmacy in the promotional literature for the mail-order scheme is a professional insult to the over 157,000 pharmacists across this country. It also is an assault on the dignity of the most elementary business acumen.

Therefore, the Michigan Pharmacists Association has established a nationwide Problems Center related to mail-order prescription schemes (mops). Pharmacies across America have been alerted to refer Ford workers disillusioned with the new employee "benefit" to contact this Center.

We trust you, as a member of the FMC Board of Directors, will seriously ponder the wisom of this decision at Corporate America. All who should know, know that the maximum savings possible through this scheme are miniscule at best. In fact, it may even cost more. The risks do not justify the means!

Sincerely, Louis M. Sesti Director

The following announcement was mailed to Ford Employees.

## OPTIONAL MAIL ORDER PRESCRIPTION DRUG PROGRAM

An improved prescription drug program will be made available effective July 1, 1983. A new mail order drug program will offer the opportunity to order longer term supplies of prescription drugs with lower co-pay costs than under the regular Ford program.

The new feature will be of benefit primarily to those purchasing "maintenance drugs", drugs which are refilled on a regular basis for such conditions as high blood pressure, arthritis, diabetes, etc.

This new program will offer convenient home delivery by mail and lower out-of-pocket costs. You can save in two ways:

- 1) the co-pay per prescription will be reduced from \$3 to \$2; and
- 2) with this one co-pay, the quantity of drugs received may be increased from a one-month to a three-month supply. Thus, you may save as much as \$7 (less postage to mail the prescription to the mail order pharmacy) on each prescription filled through the mail.

The new mail order program is optional, and you may continue to have prescriptions filled by your local pharmacy under Ford's regular drug plan. The new program is available to all employees, retirees, surviving spouses and eligible dependents covered by the prescription drug program. It will *not* apply to those enrolled in Health Maintenance Organizations (HMOs) because prescription drugs are provided through the HMO.

Mail order programs now are used successfully by a number of U.S. companies. Ford has chosen Health

Care Services (HCS) of Chester, Pennsylvania, as the mail order pharmacy. HCS has been filling prescriptions through the mail for more than ten years and stresses quality-control management. HCS has every prescription reviewed during processing by at least three licensed pharmacists.

Additional material describing this program and envelopes to submit initial prescriptions to HCS will be distributed in June.

## PERSONAL MEDICATION RECORD



Prepared by ELDER-ED University of Maryland School of Pharmacy 636 W. Lombard St. Baltimore, Md. 21201

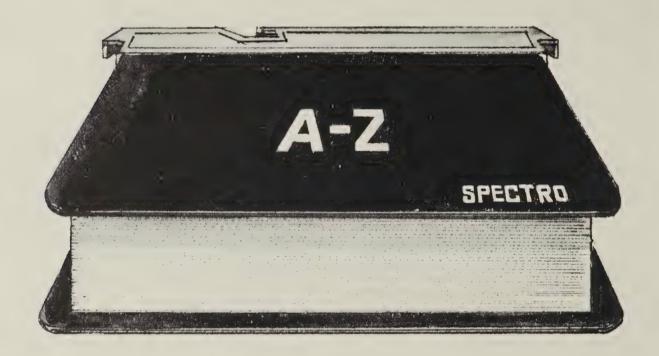
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NOVEMBER, 1983 21

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## Paperwork Reduction Act Regulations



On March 31, 1983, OMB's Office of Information and Regulatory Affairs published a final rule setting forth the procedures for implementing the Paperwork Reduction Act of 1980. Although OMB has been responsible for oversight of virtually all paperwork requirements imposed by federal agencies for several years under the Paperwork Reduction Act and its predecessor, the Federal Reports Act, it has never before issued guidance with such force.

The regulation reflects the experience of two years of operation under the Act, during which OMB has achieved a 29 percent reduction in the number of hours required to comply with paperwork requirements existing when the Act was passed. It also reflects the ideas of 54 federal agencies and 90 interested members of the public who filed comments on the notice of proposed rulemaking, which was published last September. OMB incorporated many of the changes suggested by the commenters; it gave all comments careful consideration.

Some of the major issues resolved or clarified by the rule include:

- —All paperwork requirements currently in effect in existing regulations which have not already been approved by OMB must be submitted by December 31, 1983. This will include up to 1700 requirements imposed by the IRS alone.
- —For the first time, it is clearly stated that public disclosure requirements of specific, individual information will be covered, and must be reviewed by OMB. This means that clothing care labels, energy efficiency stickers, and the Federal Reserve Board's Regulation Z will be evaluated for the first time under the criteria established by the Paperwork Reduction Act.

- —The rule sets forth a number of guidelines which agencies must meet, unless they can show that an exemption is necessary to meet statutory requirements or other substantial need. The guidelines include directions that agencies may not:
  - —require the public to file any report more than four times a year,
  - —give less than 30 days for a written response to a request for information,
  - —require submission of more than an original and two copies,
  - —require that records be maintained for more than three years (except for health, medical, and tax records),
  - —require information to be submitted in a form other than that in which it is normally maintained, and
  - —impose paperwork requirements on small businesses without making every effort to reduce the burden with simplified forms or other special consideration.
- —All reporting and recordkeeping requirements that have been approved by OIRA will display control numbers to inform the public that the requirements have met statutory standards; the absence of a control number will enable the public to know when agency paperwork requirements are unauthorized.
- —The rule guarantees the public right to comment on agency paperwork requirements and suggest revision or even elimination of needlessly burdensome requirements.
- —The rule provides for continuing review of all paperwork requirements on a three-year cycle, to ensure that requirements that become obsolete or cease to be used will be eliminated.
- —The rule also explains for the first time the separate procedures and requirements for the different categories of paperwork requirements—those in current rules, those in proposed or new rules, and those not specifically required by rule. One of the most important changes is the treatment of requirements in current rules. The regulation provides that OMB can direct agencies to institute rulemaking or other appropriate procedures to eliminate needlessly burdensome paperwork requirements.

In the first two years of implementing the Paperwork Reduction Act, OMB has worked with the other agencies to reduce the overall paperwork burden by approximately 300 million hours. The publication of this rule will help us to make more progress in ensuring that the government receives the information it needs without imposing unnecessary burdens on the public.

## REFERENCES

Federal Register of March 31, 1983, page 13666.



## Meet Dr. Bob

Dr. Bob Singiser was awarded his Ph.D. in Pharmacy from the University of Connecticut in 1959, shortly after joining Abbott as a Research Pharmacist. He became Vice President of Scientific Affairs of the Pharmaceutical Products Division in 1970

## HE KNOWS BOTH SIDES OF THE BENCH

As head of our divisional product development operation, Dr. Bob Singiser will tell you that meeting compendial specs is sometimes just the beginning of the job.

He knows that things like flavor, tablet size, stability, and odor (or lack of it) can be critical to patient compliance. That's why he and his people are always striving for the "leading edge" in formulation technology.

But Bob's commitment isn't confined to our side of the bench. He is very active in local and national pharmacy activities. You'll often find him lining up speakers for pharmacy school or association meetings. Or coordinating a student internship program (we had six students with us last summer). Or setting up a visiting professor program for pharmacy school faculty members.

This isn't written into his job description here at Abbott. It's something he chooses to do. And when the administrative work begins to pile up, he's apt to remind us, "Hey guys, remember—I'm a pharmacist."

As though we'd ever forget.

3093462





Karren Disney moderated the Continuing Education Coordinating Council's seminar on "Pain Management" held on September 11, 1983



Neta Hodge, Assistant Professor at the Philadelphia College of Pharmacy, discussed Nonsteriodal Anti-inflammatory Agents.



The CECC program attracted nearly 100 pharmacists to the Columbia Inn in Columbia, Maryland.

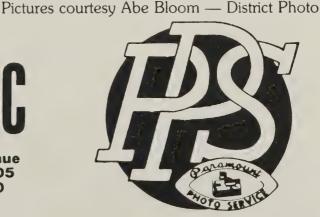


Debora A. Aversa has been assigned the Baltimore territory for the Upjohn Company. Debbie is a graduate of Georgetown University.

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## **ABSTRACTS**

Excerpted from PHARMACEUTICAL TRENDS, published by the St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor and Leonard L. Naeger, Ph.D., Associate Editor

### ACNE:

A group of 59 women and 32 men with long standing cystic acne resistant to conventional therapy were found to have elevated levels of circulating androgenic substances in the plasma. Men received dexamethasone while women received dexamethasone and/or oral contraceptives, e.g. Demulin. Of the patients who remained on therapy for six months, 97% of the women and 81% of the men were experienced remarkable improvement or resolution of their skin problem. N Engl J Med, Vol. 308, #17, p. 981, 1983.

## MORPHINE-PCP INTERACTION:

PCP is a unique CNS active drug capable of producing a wide variety of symptoms including hypnotic and hallucinatory effects. Administration of morphine apparently potentiates these effects probably by inhibiting the disposition of PCP. *J Pharmacol Exp Ther*, Vol. 225, #2, p. 325, 1983.

### LOW TAR/NICOTINE CIGARETTES:

Certain tobacco ads claim low yield cigarettes have and deliver less tar and nicotine than conventional cigarettes. Investigators in California have tested a variety of each type of cigarette and found little difference in the amount of nicotine which gets into the blood stream. They have concluded that there is little practical difference between normal and low tar/nicotine cigarettes. *N Engl J Med*, Vol. 309, #3, p. 139, 1983.

## TRANSDERMAL MEDICATION:

Several drugs have been prepared for use on transdermal patch preparations. A few of the drugs which are commercially available in this dosage form include nitroglycerin, pilocarpine, and scopolamine. A new patch containing clonidine (Catapres) has been used experimentally to treat patients with hypertension. The patch is placed on the upper portion of the arm and will exert its effect for one week. Patients have experienced good control with the patch while reporting a reduced number of side-effects. Transdermal administration of medication may only be starting to show its potential. *JAMA*, Vol. 250, #2, p. 147, 1983.

### **AMINOGLYCOSIDE ANTIBIOTICS:**

The aminoglycoside antibiotics such as streptomycin and neomycin have been found to produce a reduction in skeletal muscle tone additive to that produced by skeletal muscle relaxants used during surgical procedures. The mechanism of this effect has been studied and it appears that the aminoglycosides produce the muscle relaxing effect by competitive antagonism

with calcium ions for a common presynaptic site required for evoked transmitter release. At the postsynaptic site, streptomycin acts to physically block the receptor site while neomycin interacts with the ionic channel of the acetylcholine receptor while it is in the open configuration. *J Pharmacol Exp Ther*, Vol. 225, #3, p. 487, p. 496, 1983.

### HYPERTENSIVE THERAPY:

One hundred hypertensive patients whose pressures were controlled with drug therapy were followed to see how long they might keep their pressures under control. Seventy-five patients experienced recurrent hypertensive episodes because they did not understand the parameters of their therapy. The majority of patients did not understand that they were to continue to take their medication while others thought they were not to take any medication unless they had just previously eaten. Others felt they were to take their medication only on days of clinic visits. A few people quit because of side-effects, but it seems that if patients were more thoroughly informed about their medication better compliance and control might be achieved. *Br Med J*, Vol. 286, #6382, p. 1956, 1983.

### **HEPARIN:**

Heparin is widely used in the treatment of various forms of thromboembolic disease. Pregnant women receiving this drug seem to require higher doses than do non-pregnant controls. A prospective study has confirmed that later stages of pregnancy are associated with a degree of heparin resistance and thus a greater than normal dose should be used to achieve adequate control. *Clin Pharmacol Ther*, Vol. 34, #1, p. 23, 1983.

## **CLOSTRIDIAL TOXIN:**

Botulinus toxin produces a blockade in the release of acetylcholine from nerve endings throughout the body. No drug seems effective in reversing this phenomenon, although lowering body temperature and reducing plasma calcium levels will prolong the onset of paralysis. Experimental evidence shows methylamine hydrochloride and ammonium chloride have the ability to block the uptake of acetylcholine by the cholinergic nerves thus indirectly reducing the symptoms produced by the toxin. *J Pharmacol Exp Ther*, Vol. 225, #3, p. 546, 1983.

### MALARIA AND HYPOGLYCEMIA:

Patients with Falciparum malaria are often treated with quinine to reduce the symptoms of the disease.

Patients with severe disease were found to experience severe hypoglycemia which ultimately led to reduction in central nervous system function. Closer examination of these subjects indicated that although the parasite's use of glucose may reduce plasma concentrations of the nutrient, quinine apparently increases release of insulin from the pancreas and further reduces the plasma level of glucose. *N Engl J Med*, Vol. 309, #2, p. 61, 1983.

## DRUG WITHDRAWAL:

Diazepam (Valium) has been used to treat withdrawal from both alcohol and barbiturate addiction. It was determined that there are different physiological characteristics associated with the two types of drug addiction. Diazepam appeared to be more effective in reducing the symptoms of withdrawal from pentobarbital than it was in reducing those associated with ethanol withdrawal. *J Pharmacol Exp Ther*, Vol. 225 #3, p. 589, 1983.

## **OMEPRAZOLE:**

Another histamine-2 antagonist has been found which inhibits both basal and pentagastrin stimulated acid secretion from the parietal cells of the stomach. When used in a single daily dose, omeprazole was found to be capable of producing greater acid inhibitory activity than either cimetidine (Tagamet) or ranitidine (Zantac). *Br Med J*, Vol. 287, #6384, p. 12, 1983.

## **PARKINSON MODEL:**

Drug abusers using a substance called "new Heroin" were found to develop symptoms similar to those seen in patients suffering from Parkinson's disease. The drug they had used was found to be MPTP, a by-product formed during the manufacture of illicit meperidine. Scientists observed that anti-Parkinson drugs helped alleviate the symptoms in these patients. It was postulated that the use of the by-product in experimental animals may give us the first good model for testing anti-Parkinson drugs. Work continued until researchers developed a method for using MPTP to induce this condition in primates. No adequate animal models for this disease state had existed prior to these studies. *JAMA*, Vol. 250, #1, p. 15, 1983.

### **DIPHENHYDRAMINE:**

Antihistamines such as diphenhydramine (Benadryl) have been noted to cause sedation and drowsiness. Recognizing this characteristic, physicians have used the drug as a night-time hypnotic. Studies have indicated a varied degree of effectiveness. This double-blind, placebo controlled study suggests that a 50 mg dose of diphenhydramine is an effective and safe treatment for temporary mild to moderate insomnia. *J Clin Pharmacol*, Vol. 23, #5,6, p. 234, 1983.

## **ETHANOL:**

The uptake of calcium into the presynaptic nerve ending is necessary in order for adequate transmitter to be released after an action potential has reached the nerve terminus. Several depressants, including barbiturate, phenothiazine and benzodiazepine, derivatives have been found to inhibit this calcium influx. Ethanol apparently produces its effects via the same mechanism. After chronic exposure, tolerance develops to this effect and the calcium uptake returns to normal. *J Pharmacol Exp Ther*, Vol. 225, #3, p. 571, 1983.

### **KETOCONAZOLE:**

Ketoconazole (Nizoral) has been found very effective when given orally to treat certain types of fungal infections. The drug was noted to cause heptocellular toxicity and this warning is being strengthened. The drug is also being used topically to treat fungus infections. *FDC Rep*, Vol. 45, #25, p. 1, 1983.

## **DIAZEPAM WITHDRAWAL:**

During recent years, there has been a trend to prescribe benzodiazepine derivatives on an "as needed" basis rather than as constant therapy. Patients who had been on long-term diazepam therapy were noted to experience withdrawal symptoms after discontinuing the drug. Patients who have been on the drug for long periods of time were placed on reduced diazepam dosage or a placebo during the withdrawal period. Those taking the decreasing doses of the benzodiazepine were found to experience anxiety only while placebo treated patients also experienced perceptual changes and psychotic symptoms. Decreasing the dose of benzodiazepine derivatives after prolonged therapy should help reduce problems associated with withdrawal. *Lancet*, Vol. I, #8339, p. 1402, 1983.

## PHENOTHIAZINE METABOLITES:

Phenothiazine molecules generally contain an asymmetric carbon atom thus making a wide variety of metabolites possible. The N-oxide metabolites of several phenothiazine derivatives were isolated and tested for activity. They seem to have significant antidopaminergic activity as is characteristic of the parent molecule. It is possible that the N-oxide metabolites of the phenothiazines contribute to the antipsychotic activity associated with these drugs. *J Pharmacol Exp Ther*, Vol. 225, #3, p. 539, 1983.

## **ENALAPRIL:**

Enalapril is a new angiotensin converting enzyme inhibitor used to produce vasodilation and subsequent reduction in blood pressure. It produces a somewhat flat dose-response curve as is the case for captopril (Capoten), the only similar drug currently on the United States market. The newer drug does not contain a sulfhydril moity thus making it less toxic than captopril. Enalapril is said to be more potent and longer acting than the older agent but requires hepatic esterase activity for activation. *J Clin Pharmacol*, Vol. 23, #5, 6, p. 189, 1983.

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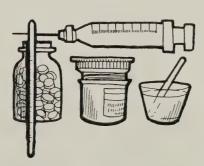
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Official Journal of The Maryland Pharmaceutical Association

December, 1983 VOL. 59 No. 12



## Megatrends in Pharmacy: Why the Future is Bright

- James G. Dickinson

Analyze Your Records to Reduce Costs

— Alfred B. Abraham

Lithium Intoxication

— Craig K. Svensson

Maryland's Bad Check and Credit Card Laws

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December, 1983

VOL. 59

No. 12

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The great profession of pharmacy has two great national associations, the American Pharmaceutical Association and the National Association of Retail Druggists. Thousands of us have been members of both organizations for years. NARD, representing the community practice of pharmacy has done a great job working for its constituency. It's conventions, workshops, and continuing education programs seem to grow larger and better each year. It's journal covers all of the latest news on a variety of pharmaceutical subjects—third party, mail order prescriptions and infringement on pharmacy turf.

The APhA, representing the entire profession of pharmacy, has raised the image of our profession to new heights. It has worked on a great range of professional endeavors—education, third party, and continuing education programs. The APhA diligently works with pharmacy students to instill professional pride at the very beginning of their chosen career.

Both organizations have been blessed with talented leaders who have put great momentum in their pursuits.

Now isn't it time that these two great organizations should find areas of common concern. Isn't it obvious, that by working together on many of the large problems impacting our profession, we could bring about quicker and better solutions. Isn't it time to stop the careless comments both oral and written and replace doubts with trust.

Certainly each organization wants to maintain its individuality. However, we must not let interprofessional competition overshadow the larger goal, that of practicing and improving the wonderful profession of pharmacy.

Thousands of pharmacists would applaud a cooperative gesture between our two national organizations.

The more turbulent the waters of pharmacy become, the more we need the cooperative efforts of both national organizations to keep us on a steady course.

William C. Hill, P.D.

PRESIDENT

# Megatrends in Pharmacy: Why the Future is Bright

by James G. Dickinson

(An address to the 1983 A. H. Robins "Bowl of Hygeia" Award recipients, Hyatt Regency, Richmond, Va. October 10, 1983)

I don't imagine it's very likely that a pharmacist could simultaneously receive such a distinguished award as the Bowl of Hygeia and be a pessimist.

Nevertheless, these are sobering times we live in, and judging by the number of people my age I hear grousing about the grown children they have living at home, optimism may be scarcest among the rising generation. It didn't used to be that way. Back in the fifties, when I was a bigger nuisance to my parents than I am now, the kids seemed to have all the confidence in the world that they could go out and get it—somehow.

According to the latest public opinion polls, the kids of the eighties don't have that same foolhardy belief in themselves and the future. So they live at home and drive us mad with the "A-Team" and the "Dukes of Hazzard" on TV. Those same opinion polls also show that network viewing and profits are tumbling drastically, because the people who have disposable incomes—namely us—aren't watching the tube any more, and hence aren't reached by commercials the way we once were.

Tonight I'm going to talk about "megatrends," the latest fad on the best-seller list that is fast turning author John Naisbitt into a national guru. If you haven't yet read his book, you may not be aware that it is premised on a unique compilation of 12 years of newspaper clippings into a set of what Naisbitt has identified as ten major, lasting trends that are now transforming American society.

Briefly, Naisbitt says these trends are:

- (1) Our relentless conversion from an industrial to an information society, in which the whitecollar, professional and service-oriented callings dominate;
- (2) A societal blending of high-tech methods with heightened concern for human values;
- (3) Submersion of national economies into a global economy;
- (4) Abandonment of short-term thinking on virtually every level in favor of longer-term approaches to the many problems that confront us;
- (5) The emergence of grassroots, or what Naisbitt calls "bottom-up", innovative thinking instead of macro-scale thinking;

- (6) Rejection of institutional help in favor of selfhelp:
- (7) The obsolescence of many of the old forms of representative democracy so that our governments make more use of participatory processes, such as referendums and other mechanisms for gathering consensus;
- (8) We are giving up hierarchical structures such as corporate organizational pyramids and adopting loose-knit networks for horizontal information-sharing among people with common interests;
- (9) The transfer of people out of the old northern centers into the south and west, and
- (10) Naisbitt sees us exploding into a free-wheeling, multiple options society instead of what we've tended to be until now—a society in which you either did one thing or the other, like either vote democrat or republican, buy either a Ford or a Chevy, or go to college or not.

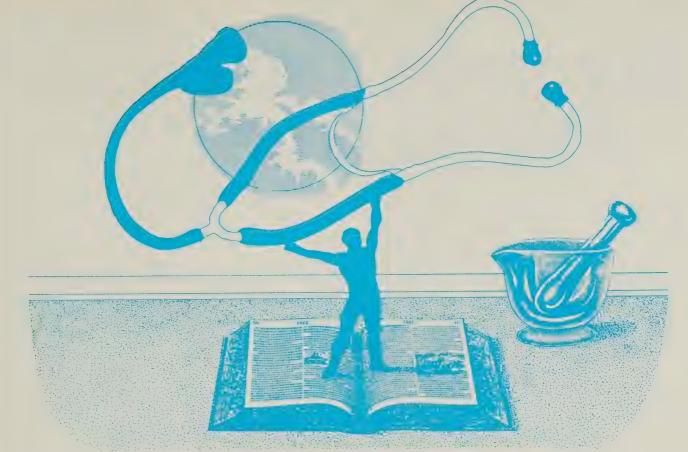
Each one of these ten "megatrends" could occupy us for the rest of the evening, but I want to talk about pharmacy "megatrends" that, I submit, comport fully with Naisbitt's "megatrends" and, in the process, justify the confidence of those of you who would urge your sons and daughters to become pharmacists.

The most important phamacy megatrend is the rapid aging of the U.S. population. By the year 2050, more Americans will be over age 45 than under it, according to latest census bureau projections.

There will be a staggering increase within our lifetimes in the quantum numbers of people who require pharmaceutical intervention in their daily lives, whether for cancer, heart disease, stress-induced illnesses or the usual degenerative diseases of aging.

The wellness movement will accelerate in keeping with Naisbitt's prediction that we are becoming a self-help society. This will put enormous pressure on available health information sources, including the burgeoning and highly adaptable pharmacy computer, which is already feasibly accessible to the home computer.

So pharmacy megatrend number two is that computers will tell this record population of health-conscious older Americans what they need to know about



managing their drugs and their daily living habits.

How many of you already have computers in your pharmacies? An informal survey my wife and I did among pharmacy computer companies a few months ago suggested that almost one in three independent pharmacies is now either already computerized or in the process of becoming so, and the rest are coming on fast.

Contrary to what the pessimists may have you believe, this computerized health information for the consumer will not come from some giant, centralized Dow-Jones type health data bank accessed by the home computer—telephone long distance charges and subscription fees will tend to deter that.

Instead, this information will come from the neighborhood pharmacy which has the patient's expanded drug profile integrated with all kinds of other health care information on software made available by pharmacy service companies.

Pharmacy megatrend number three—and here I beg to differ with my friend Al Wertheimer of the University of Minnesota College of Pharmacy in this month's American Druggist—is that pharmacy's third-party problems will mostly go away.

In case you missed it, Al's article said that HMO's, third parties, government programs and other massive institutional intruders into health care may well make the independent pharmacy extinct. I, however, think that Al and a lot of other informed observers of the pharmacy scene over-emphasize the relative importance of drug therapy in the policital scheme of things.

That N.A.R.D. NAPPAC slogan, "Get into politics

or get out of pharmacy," makes a lot of sense for a pharmacist who is trying to get something out of government, but it doesn't run the other way as well and suggest that our lawmakers are waiting with bated breaths to hear from pharmacy; I'm not aware of an opposite slogan among legislators—"Get into pharmacy or get out of politics!"

The simple truth, I predict, is that regardless of the present situation in pharmacy, governmental and private institutional considerations will eventually become less important, although they obviously won't go away altogether.

The combination of self-help, the wellness movement, computerized information sources and the fractionation of macro-scale solutions to individual decisionmaking will mean the growth—not the contraction—of self-pay for drugs.

As more and more Americans find themselves working for themselves as contractors of various kinds, and fewer and fewer enjoy all the employee fringe benefits of large corporations and labor unions—which is yet another megatrend, incidentally—the more people will pay their own way for the lower-ticket items of health care. Insurance companies and government programs will take care of catastrophic costs, but they won't generally include drugs. We see this already in rising co-pays and deductibles.

Another pharmacy megatrend—again confounding Al Wertheimer, I predict—will be the growing preference of health-conscious people to patronize an independent pharmacy. Indeed, chain stores of every kind, not just drug, are in serious trouble already, because the

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discriminating, well-informed buyer is in the ascendancy, demanding individualized, well-informed attention.

Moreover, to the extent that the younger people are finding it harder to earn money and are healthier anyway than their more affluent parents, the concept of the deep discount chain drug store will have less and less to do with medicines and more and more to do with specialized convenience items sought by the young.

Indeed, that points to another important pharmacy megatrend—with the further conversion of prescription drugs to over-the-counter status, drug information will become a highly interactive, participatory skill that chain stores will be hopelessly under-equipped to handle adequately.

There are complicating factors, too, that will help steer business the way of the independent pharmacy. For instance, the impaired metabolic processes of the older patient will impose a major new challenge on all branches of the drug distribution system, especially pharmacy.

You all know how many drugs an old person is likely to be taking concurrently. Next week, the FDA is sponsoring a public hearing on new guidelines it is trying to develop for the testing of drugs in the elderly; how differently does a 70-year-old person with impaired kidney function eliminate metabolites from their heart medication, as compared with the 23-year-old student volunteer or prison inmate on whom it was tested prior to FDA approval of the professional labeling upon which the doctor and you both rely?

And, perhaps more importantly, how does your elderly patient acquire guidance on which drugs he or she is taking have been so tested?

Here is a challenge that must be met right at the pharmacist-patient interface, and it will be met only by those pharmacists who have mastered the techniques of the information society. These include interactive computer data services, and the means of keeping constantly abreast with knowledge developments from the world of research and medical practice.

It's true, of course, that wherever there is a dollar to be made you will find innovative retailers, including big drug chains. For that reason, it's only to be expected that some big drug chains will specialize in highly interactive, information-intensive pharmacy departments. But my expectation is that only a few will be successful at this, and the field will be left largely to the independent who will establish a necessary personal rapport with his more-affluent, older and well-informed patient.

This is not the kind of patient that chain drug stores were invented to cater to, and few will be able to chase this patient successfully because drug prices will not be the big issue they have been heretofore among the elderly.

One of the reasons for that is yet another pharmacy megatrend. In addition to price not mattering so much to the more affluent, better-informed older patient, generic competition and the Rx-to-OTC switches will have tended to bring many drug prices down again.

The blockbuster new therapies, such as intelligenceenhancing pills and magic bullets that cure cancer, will doubtless be comparatively expensive, but the majority of older people will hardly be using those.

To quote from Naisbitt again, it gets down to a question of what business you think you're in—and of conceptualizing what business you want to be in. Are you in pharmacy? Or are you in the health care business?

I submit that the former is self-limiting, while the latter allows the practitioner to literally move in any direction he or she conceives or, from a solid pivotal base in pharmacy. Indeed, if you think about it a moment, pharmacy is a better-focussed base to operate from than medicine because it is more disciplined, less fraught with conjecture and uncertainties based on shifting symptomatologies.

In other words, pharmacists don't have to worry so much about diagnosis—a complex and testing process, and instead are free to interact directly with their patients on the basis of already-established diagnosis that increasingly will have the added luster of insurance-mandated second opinions. You have a freedom the poor physician can never have!

Let me sum up with a subjective, personal observation. I've been writing about pharmacy for 15 years. In the first part of that period, I guess there were many times when I was glad to be outside looking in, to not be a pharmacist myself.

For the last couple of years, however, I haven't felt that way at all. If I were smart enough, I'd go back to college now and take out a pharmacy degree, late in my life though it is!

# calendar



Jan. 18-27—MPhA TRIP TO ACAPULCO

Jan. 29—MPhA Mid year Meeting, Annapolis Hilton—With CE Seminar

March 11—BMPA Annual Banquet—time to get your table together—Note March instead of February

March 16-18—AZO Fraternity Regional Convention in Baltimore, Hyatt Hotel

March 18—Fitz Berman Seminar AZO—Hyatt Hotel April 1—CECC Seminar—Critical Care, Timonium, Holiday Inn

May 5-10—APhA Convention, Montreal

May 24—Alumni Association Graduation Banquet

May 21–24—NARD 16th Annual Conference on National Legislation and Public Affairs

June 22-24—MSHP Seminar, Ocean City

June 24-28—MPhA CONVENTION, OCEAN

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# Paraldehyde

# Contributors: Taher Sheybani and Paul L. Jeffrey University of Maryland Hospital

Paraldehyde (PA), a cyclic polymer of acetaldehyde, is a colorless liquid with an unpleasant bitter odor. Its water solubility is greatest (12.8%) at 12°c and it decreases below or above this temperature. At body temperature, its water solubility is only 7.8%<sup>1</sup>. Upon exposure to light and air, it depolymerizes to acetaldelyde and oxidizes to acetic acid. Therefore prior to administration the product must be visualized for discoloration and foreign matter. There are several reported cases of intoxication with decomposed PA<sup>2,3</sup>.

PA is currently indicated as a sedative/hypnotic, an anticonvulsant in status epilepticus when other agents have failed, and in the treatment of the alcohol withdrawal syndrome and delirium tremens. It can be administered by any route except subcutaneously. The time to peak concentration is 30 minutes when given orally, 20-60 minutes intramuscularly, and 2-3 hours when given rectally<sup>4</sup>. PA absorption is almost complete by all routes of administration<sup>4</sup>. Its distribution into the brain is rapid. Following IV injection, unconsciousness occurs in 40 seconds and in 90 seconds anesthesia is complete<sup>5</sup>. PA is 70-80% metabolized in the liver and 20-30% is excreted via the lungs, although only 8.9% is exhaled in the first 4 hours. With liver disease, the percentage of PA excreted through the lung is increased. Dosage should be adjusted accordingly with hepatic and/or pulmonary disease<sup>6,7</sup>. A negligible amount is excreted in the urine. The elimination half-life is approximately 3–6 hours<sup>4</sup>.

PA given by any route has a disagreeable odor (from exhaled PA) and taste, and may cause a rash or toxic hepatitis<sup>8</sup>. Metabolic acidosis has also been associated with PA which can aggravate the acidosis secondary to status epilepticus<sup>9</sup>. There are reports of IV PA causing apnea, pulmonary edema and pulmonary hemorrhage<sup>10,11</sup>. These studies failed to dilute PA to the

proper concentration, so that it would remain soluble after administration. Properly diluted PA (4–8% solution) has been given IV without complications. Oral or rectal PA can cause irritation of local mucosa, therefore it must be diluted correctly prior to administration. Intramuscular PA is very painful, and can cause tissue necrosis, sterile abcesses and sciatic nerve damage if injected incorrectly<sup>12</sup>. The usual dose for treatment of alcohol withdrawl is 8–15ml po diluted in fruit juice every 6 hours<sup>13</sup>. If rectal PA is used, the drug can be diluted 2:1 in olive or cottonseed oil, or diluted in 200ml of normal saline<sup>1</sup>.

A considerable amount of debate exists concerning the use of plastic syringes to administer paraldehyde<sup>14</sup>-<sup>16</sup>. The product literature for PA recommends the use of a glass syringe<sup>17</sup>, however one authority suggests that PA may be administered in a plastic syringe if given immediately (within 2 minutes) after drawing it up14,16. The susceptibility of the syringe to damage by PA is dependent upon the type of plastic 15. Clear plastic syringes are more susceptible; the more opaque syringes (e.g. Monoject) are more resistant to the action of PA. According to the manufacturer of Monoject syringes, which are made of polypropylene plastic with rubber plungers, paraldehyde may be administered in Monoject syringes if given within 30 minutes of contact<sup>18</sup>. The usual IM dose of paraldehyde for status epilepticus is 0.1-0.15 ml/Kg and can be repeated every 2-4 hours 19. The injection should be made deep into the buttocks, taking care to avoid the sciatic nerve. A maximum of 5ml can be injected in any one injection site.

Paraldehyde may be given by intravenous infusion in the management of refractory status epilepticus<sup>20</sup>. It should be diluted to a 4% solution (e.g. 20ml in 500ml of normal saline) and infused at a rate of 0.5–1 ml/min or at a rate sufficient to control seizures<sup>1,20,21</sup>. PA must be given in a large vein to minimize venous irritation (avoid dorsum of hand). It may be best to prepare the PA dilution in glass bottles. PA may be expected to interact with plastic IV tubing, although no specific data exist to support this. Studies done by a manufacturer of PVC tubing showed no decomposition of the tubing or latex flashbulbs after direct contact with undiluted PA over 8 hours<sup>22</sup>. At the University of Maryland Hospital, a 4% dilution and a 10% dilution of PA were left in contact with both PVC and polyethylene tubing for

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a period of 24 hours. No visual changes or obvious structural damage occurred to either type of tubing or flashbulbs at both concentrations<sup>23</sup>. Since these observations did not include physical measurements of one PA manufacturer to change the tubing every 4 hours if the drug is infused for long periods of time<sup>24</sup>.

The most sensitive monitoring parameters during PA therapy include clinical response and vital signs. Because metabolic acidosis and hepatotoxicity may rarely occur, blood gases and liver functions tests may be performed during prolonged therapy. Coughing, although unexplained, is a normal and frequent side effect of IV PA.

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# Analyze Your Records to Reduce Costs

by Alfred B. Abraham, CPA Managing Director, Business Diagnostics, New York, NY

# **Summary**

Increasing profits through cost reduction must be based on the concept of an organized, planned program. Unless adequate records are maintained through a proper accounting system, there can be no basis for ascertaining and analyzing costs.

Cost reduction IS NOT simply attempting to slash any and all expenses unmethodically. The owner-manager must understand the nature of expenses and how expenses inter-relate with sales, inventories, cost of goods sold, gross profits, and net profits.

Cost reduction does not mean only the reduction of specific expenses. You can achieve greater profits through more efficient use of the expense dollar. Some of the ways you do this are by increasing the average sale per customer, by effectively using display space and thereby increasing sales volume per square foot, by getting a larger return for your advertising and sales promotion dollar, and by improving your interal methods and procedures.

Profit is in danger when good merchandising and cost control do not go hand in hand. A big sales volume does not necessarily mean a big profit, as one small retailer, Carl Jones, learned.

Jone's pride was stocking stylish and well assorted lines of merchandise. Each year, sales volume increased. This increase was attributed to good merchandising which Jones felt took care of the steady rise in expenses.

Regardless of the frequency, for the most information, two P and L statements should be prepared. One statement should report the sales, expenses, profit and/or loss of your operations cumulatively for the current business year to date. The other should report on the same items for the last complete month or quarter. Each of the statements should also carry the following information: (1) this year's figures and each item as a percentage of sales, (2) last year's figures and the percentages, (3) the difference between last year and this year—over or under, (4) budgeted figures and the respective percentages, (5) the difference between this year and the budgeted figures—over and under, (6) av-

erage percentages for your line of business (industry operating ratio) when available, and (7) the difference between your annual percentages and the industry ratios—under or over.

This information allows you to locate expense variation in three ways: (1) by comparing this year to last year, (2) by comparing expenses to your own budgeted figures, and (3) by comparing your percentages to the operating ratios for your line of business.

The important basis for comparison is the percentage figure. It represents a common denominator for all three methods. When you have indicated the percentage variations, you should then study the dollar amounts to determine what kind of corrective action is needed.

Because your cost cutting will come largely from variable expenses, you should make sure that they are flagged on your P and L statements. Variable expenses are those which fluctuate with the increase or decrease of sales volume. Some of them are: advertising, delivery, wrapping supplies, sales salaries, commissions, and payroll taxes. Fixed expenses are those which stay the same regardless of sales volume. Among them are: your salary, salaries for permanent non-selling employees (for example, the bookkeeper), depreciation, rent, and utilities.

# **Taking Action**

When you have located a problem expense area, the next step obviously is to reduce that cost so as to increase your profit. A key to the effectiveness of your cost-cutting action is the worth of the various expenditures.

As long as you know the worth of your expenditures, you can profit by making small improvements in expenses. Keep an open eye and an open mind. It is better to do a spot analysis once a month than to wait several months and then do a detailed study.

Take action as soon as possible. You can refine your cost-cutting action as you go along.

Be persistent. Sometimes results may be slower than you might like. Keep in mind that only persistent analysis of your records and constant action can keep expenses from eating up profit.

But Mr. Jones began to have doubts when he found it necessary to get bank loans more often than had been his practice. When he discussed the problem with his banker, Jones was advised to check expenses. As the banker said, "A large and increasing sales volume often creates the appearance of prosperity while behind-thescene expenses are eating up the profit."

# Paying The Right Price

Your goal should be to pay the right price for prosperity. Determining that price for your operation goes beyond knowing what your expenses are. Reducing expenses to increase profit requires you to obtain the most efficient use of the expense dollar.

Look, for example, at the payroll expense. Salesclerks are paid to sell goods, and their productivity is the key to reducing the payroll cost.

If you train a salesclerk to make multiple sales at higher unit prices, you increase productivity and your profits without adding dollars to your payroll expenses. Or if four salesclerks can be trained to sell the amount previously sold by seven, the payroll can be cut by three persons.

An understanding of the worth of each expense item comes from experience and an analysis of records. Adequate records tell what has happened. Their analysis provide facts which can help you set realistic cost and profit goals. When you attain these goals, you are paying the right price for your store's prosperity.

# **Analyze Your Expenses**

Sometimes you cannot cut an expense item. But you can get more from it and thus increase your profits. In analyzing your expenses, you should use percentages rather than actual dollar amounts.

For example, if you increase sales and keep the dollar amount of an expense the same, you have decreased that expense as a percentage of sales. When you decrease your cost percentage, you increase your percentage of profit.

On the other hand, if your sales volume remains the same, you can increase the percentage of profit by reducing a specific item of expense. Your goal, of course, is to do both: to decrease specific expenses and increase their productive worth at the same time.

Before you can determine whether cutting expenses will increase profits, you need information about your operation. This information can be obtained only if you have an adequate recordkeeping system. Such records will provide the figures to prepare a profit and loss statement (preferably monthly for most retail businesses), a budget, break-even calculations, and evaluations of your operating ratios compared with those of similar types of business.

	Α		В	
	Break-Even Amount	Percent of Sales	Profit Amount	Percent of Sales
Sales	\$500,000	100	\$600,000	100
	300,000	60	<u>360,000</u>	60
	200,000	40	<u>240,000</u>	40
Fixed	150,000	30	150,000	25
	50,000	10	60,000	10
	200,000	40	210,000	35
	\$ NONE	0	\$ 30,000	5

Break-even. A useful method for making expense comparisons is break-even analysis. Break-even is the point at which gross profit equals expenses. In a business year, it is the time at which your sales volume has become sufficient to enable your over-all operation to start showing a profit. The two condensed profit and loss statements, in the accompanying example, illustrate the point. In statement "A", the sales volume is at the break-even point and no profit is made. In Statement "B" for the same store, the sales volume is beyond the break-even point and a profit is shown. In the two statements, the percentage factors are the same except for fixed expenses, total expenses, and operating profit.

As shown in the example, once your sales volume reaches the break-even point, your fixed expenses are covered. Beyond the break-even point, every dollar of sales should earn you an equivalent additional profit percentage.

It is important to remember that once sales pass the break-even point, the fixed expenses percentage goes down as the sales volume goes up. Also the operating profit percentage increases at the same rate as the percentage rate for fixed expenses decreases—provided, of course, that variable expenses are kept in line. In the illustration, fixed expenses in Statement "B" decreased by 5 percent and operating profit increased by 5 percent.

# Locating Reducible Expenses

Your profit and loss (or income) statement provides a summary of expense information and is the focal point in locating expenses that can be cut. Therefore, the information should be as current as possible. As a report of what has already been spent, a P and L statement alerts you to expense items that bear watching in the present business period. If you get a P and L statement only at the end of the year, you should consider having one prepared more often. At the end of each quarter might be often enough for some firms. Ideally, you can get the most recent information from a monthly P and L.

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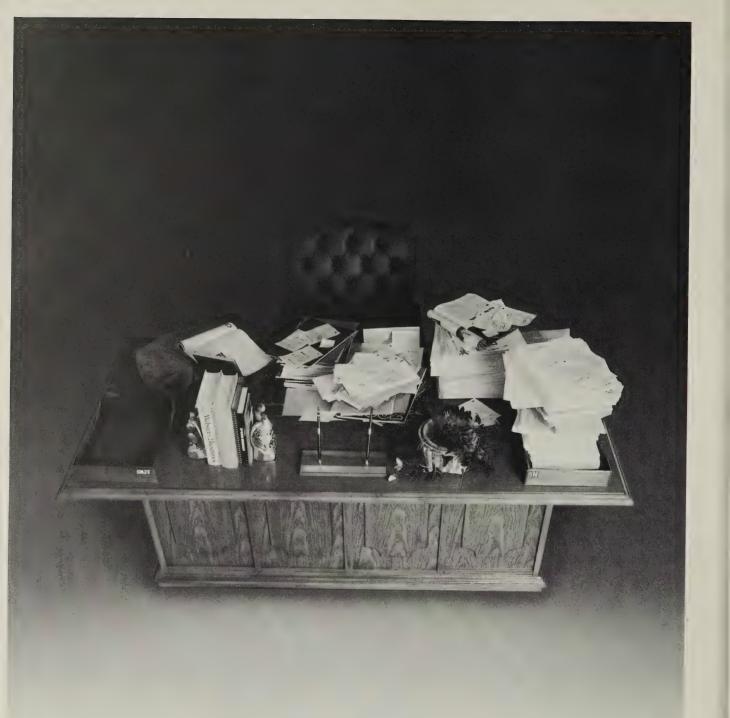
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# Lithium Intoxication

Craig K. Svensson, Pharm.D.

# Introduction

Lithium occurs in trace amounts in plants and animal tissue, but its potential physiological role, if any, is unknown. Lithium was introduced into medicine in 1829 as a treatment for gout. Lithium chloride was used as a salt substitute in the 1940's for patients with congestive heart failure but fell into disfavor after several deaths were reported. Lithium was subsequently found to be effective in the treatment of mania. By the 1960's, lithium had become recognized as a useful treatment for mania, although the drug did not become available in the United States until 1970.

# **Pharmacokinetics**

Lithium is absorbed rapidly and completely, reaching peak plasma levels in one to three hours after an oral dose.3 Lithium plasma concentrations in patients on a three-times-daily schedule may vary over a two fold range.<sup>2</sup> It is distributed in total body water and its volume of distribution is 0.5 to 0.9 liter/kg.4 Lithium is excreted almost entirely by renal elimination, with a half life of 20 hours in young adults and 36 hours in elderly patients.<sup>2,5,6,7</sup> Seventy to 80 percent of the drug is reabsorbed in the proximal tubule with lithium and sodium competing for reabsorption. Lithium, unlike sodium, is not reabsorbed distally and its excretion is not facilitated by diuretics. This becomes particularly important during sodium deficiency and sodium diuresis because these states cause an increase in lithium retention which can then produce lithium intoxication.

### Acute Lithium Intoxication

Lithium intoxication can result after therapeutic use or intentional overdosage. The progression of symptoms in lithium intoxication is slow, regardless of the etiology. Initial or early symptoms include sluggishness, apathy, gastrointestinal irritation manifested by vomiting, anorexia, and diarrhea, ataxia, polyuria, increased thirst, coarse tremor, muscle rigidity, muscle weakness and twitching. 8,9,10 These symptoms can occur at therapeutic plasma levels (see than 2.0 mEq/L) and may be an indication of impending toxicity. Subsequent or late symptoms of lithium intoxication which involve the CNS, cardiovascular system and kidneys generally occur at levels above 2 meq/l.

In the gradual development of intoxication one of the first manifestations seen is coarse tremor. 8,9,10,11 Asymmetric clonic contractions of large muscle groups may also occur. As the intoxication progresses somnolence, confusion and severe impairment of consciousness occur. Seizures, increased muscle tone and hyperactive reflexes may also occur. 9,10,11,12,13 Electroencephalogram may demonstrate a decrease in alpha activity and an increase in beta and delta activity. 8,9 Although the CNS toxicities are usually reversible, residual tremor, dysarthria, ataxia and choreiform movements have been reported. 12,14 Lithium toxicity in the CNS may be due to its substitution for other cations that normally function in cerebral processes.

Lithium, like sodium, can enter cardiac tissue. However, it is ineffectively removed, and it subsequently replaces intracellular potassium. Secondary to these changes, reversible T-wave depression, occasionally T-wave inversion, prolongation of the Q-T interval as well as arrhythmias may be seen. 8,9,10,12,15,16

Polyuria and polydipsia commonly occur at both therapeutic and toxic levels of lithium. <sup>7,8,9</sup> Lithium inhibits the response to antidiuretic hormone. <sup>10</sup> This effect may be secondary to the inhibition of ADH sensitive adenyl cyclase located in the renal medulla. <sup>17</sup> It is important to recognize that the clearance of lithium is not altered during lithium-induced polyuria. <sup>6,7</sup> Polyuria may however, lead to dehydration and a subsequent decrease in GFR. The result of this will be a decreased clearance of lithium and the potential development of intoxication. Thiazide administration can reduce lithium-induced polyuria. <sup>18</sup>

As stated earlier, lithium and sodium compete for tubular reabsorption at the proximal site. During lithium intoxication hyponatremia may develop, which causes a further retention of lithium. Hypokalemia has also been reported during lithium intoxication. 8,13

Serum creatinine and BUN initially increase during lithium intoxication.<sup>7,8,9</sup> This initial increase may be secondary to dehydration and the subsequent decrease in GFR. While uncommon in lithium intoxication, acute renal failure has been reported.<sup>8,19</sup>

# Treatment of Overdoses

Emesis or lavage should be initiated in a patient with a recent ingestion of lithium. Obviously, in a chronic lithium intoxication, this maneuver will not be of much consequence. Lithium would not be expected to be adsorbed by activated charcoal since activated charcoal adsorbs mainly the unionized portion of lipid soluble drugs. A saline cathartic should be administered to decrease transit time of unadsorbed drug. This may be of particular importance since the serum lithium concentration has continued to rise for 48 hours after an overdose, which has been attributed to the formation of insoluble aggregates of lithium carbonate in the gastrointestinal tract. It is important to remember that the progression of lithium intoxication is slow. One case was reported in which a patient did not manifest CNS depression until 45 hours after ingestion of an overdose. Deaths from lithium intoxication are usually secondary to pneumonia or respiratory failure. Secondary

Monitoring of serum lithium levels, electrolytes, EKG and renal function is important. Fluid and electrolytes should be replaced. Seizures, if they occur, may respond to diazepam, phenytoin or phenobarbital.<sup>8,9</sup>

Water loading or the administration of potassium or sodium chloride does not alter lithium excretion.<sup>6,7</sup> Administration of large doses of sodium chloride during lithium intoxication has led to hypernatremia, and could potentially result in pulmonary edema. The use of urea, mannitol, aminophylline and urine alkalinization have been shown to significantly increase lithium excretion.<sup>6</sup> Both peritoneal and hemodialysis have been shown to be effective in enhancing lithium excretion. 8,9,14,19,21,23,24 Hemodialysis is the more effective of the two. Escobar and Skoutakis have listed the following as indications of dialysis: (1) ingestion of a potentially fatal dose of lithium, (2) renal failure, (3) progressive increase in serum lithium concentrations of greater than 3.5 mEq/ L and (4) prolonged coma. Rebound after hemodialysis has been reported, thus the procedure may have to be repeated.

As lithium has a narrow therapeutic index, routine monitoring of serum lithium concentration can be useful in preventing toxicity. This is particularly important in the face of changes in the patient's status which may alter lithium clearance such as sodium diuresis in post-partum patients, kidney disease, diuretic administration, sodium loss, and age related changes in renal function. Lithium should be used cautiously in suicidal patients.

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# Maryland's Bad Check and Credit Card Laws

# INTRODUCTION

In 1978 the Maryland General Assembly enacted legislation consolidating all of the theft-related offenses previously included under Maryland law under different headings in different sections of the Code.

Conduct designated as theft in this subheading constitutes a single crime embracing, among others, the separate crimes heretofore known as larceny, larceny by trick, larceny after trust, embezzlement, false pretenses, shoplifting and receiving stolen property.

As part of this revision the bad check law was also revised, as well as the law relating to credit card offenses.

# The Effective Date of this New Law is July 1, 1983

# ARTICLE 27 ANNOTATED CODE OF MARYLAND BAD CHECKS

# § 140. Definitions.

In this subheading, the following words have the meanings indicated:

- (a) "Check" means any check, draft, or other negotiable instrument of any kind which is not postdated with respect to the time of utterance.
- (b) "Drawer" of a check means a person whose name appears thereon as the primary obligor, whether the actual signature be that of himself or of a person purportedly authorized to draw the check in his behalf.
  - (c) "Funds" means money or credit.
- (d) "Insufficient funds"—A drawer has "insufficient funds" with a drawee to cover a check when he has no funds or account whatever, or funds in an amount less than that needed to cover the check; and a check dishonored for "no account" shall also be deemed to have been dishonored for "insufficient funds."
- (e) "Obtain" means obtain as defined in § 340 (f) of this article.
- (f) "Pass"—A person "passes" a check when, being a payee, holder, or bearer of a check which previously has been or purports to have been drawn and uttered by another, he delivers it, for a purpose other

than collection, to a third person who thereby acquires a right with respect thereto.

- (g) "Property" means property as defined in § 340 (h) of this article.
- (h) "Representative drawer" means a person who signs a check as drawer in a representative capacity or as agent of the person whose name appears thereon as the principal drawer or obligor.
  - (i) "Services" includes, but is not limited to:
  - (1) Labor or professional service;
- (2) Telecommunication, public utility, toll facilities, or transportation service; or
  - (3) Lodging, entertainment, or restaurant service.
- (j) "Utter"—A person "utters" a check when, as a drawer or representative drawer thereof, he delivers it or causes it to be delivered to a person who thereby acquires a right against the drawer with respect to the check. One who draws a check with intent that it be so delivered is deemed to have uttered it if the delivery occurs.
- (k) "Value" means value as defined in § 340 (l) of this article. (1978, ch. 849 § 1; 1979, ch. 267; 1981, ch. 2, § 3).

# § 141. Obtaining property or services by bad check—Acts constituting.

A person is guilty of obtaining property or services by a bad check when:

- (a) (1) As a drawer or representative drawer, he obtains property or services by uttering a check knowing that he or his principal, as the case may be, has insufficient funds with the drawee to cover it and other outstanding checks; and
- (2) He intends or believes at the time of utterance that payment will be refused by the drawee upon presentation; and
- (3) Payment is refused by the drawee upon presentation.
- (b) (1) He obtains property or services by passing a check knowing that the drawer thereof has insufficient funds with the drawee to cover it and other outstanding checks; and
- (2) He intends or believes at the time the check is passed that payment will be refused by the drawee upon presentation; and
  - (3) Payment is refused by the drawee upon presen-

tation.

- (c) As a drawer or representative drawer, he obtains property or services by uttering a check knowing that he or his principal, as the case may be, at the time of uttering the check intends, without the consent of the payee, to stop or countermand the payment of the check, or otherwise to cause the drawee to disregard or dishonor or refuse to recognize the check, and payment is refused by the drawee upon presentation.
- (d) He obtains property or services by passing a check knowing that payment of the check has been stopped or countermanded, or the drawee of the check will disregard or dishonor or refuse to recognize the check, and payment is refused by the drawee upon presentation. (1978, ch. 849, § 1; 1979, ch. 687, § 1).

# § 142. Same—Presumptions.

- (a) When the drawer of a check has insufficient funds with the drawee to cover it and other outstanding checks at the time of utterance, the subscribing drawer or representative drawer, as the case may be, is presumed to know of the insufficiency.
- (b) A subscribing drawer or representative drawer, as the case may be, of an ultimately dishonored check is presumed to have intended or believed that the check would be dishonored upon presentation when:
- (1) The drawer had no account with the drawee at the time of utterance; or
- (2) (i) The drawer had insufficient funds with the drawee at the time of utterance to cover it and other outstanding checks; and
- (ii) The check as presented to the drawee for payment not more than 30 days after the date of utterance; and
- (iii) The drawer had insufficient funds with the drawee at the time of presentation.
- (c) Dishonor of a check by the drawee, that the drawer had no account with the drawee at the time of utterance, and insufficiency of the drawer's funds at the time of presentation may properly be proved by introduction in evidence of a notice of protest of the check or of a certificate under oath of an authorized representative of the drawee declaring the dishonor, lack of account and insufficiency, and this proof shall constitute presumptive evidence of the dishonor, lack of account and insufficiency.
- (d) The fact that a drawer or representative drawer, without the consent of the payee, stopped or countermanded the payment of the check, or otherwise caused the drawee to disregard or dishonor or refuse to recognize the check without returning or tendering the return of the property obtained, constitutes presumptive evidence that the drawer or representative drawer had the intent to stop or countermand payment or otherwise cause the drawee to disregard or dishonor or refuse to recognize the check at the time of uttering. (1978, ch. 849, § 1; 1979, ch. 267; ch. 687, § 1; 1981, ch. 255).

# § 143. Same—Penalties; restitution.

- (a) A person convicted of obtaining property or services by a bad check when the property or services has a value of \$300 or greater is guilty of a felony and shall be fined not more than \$1,000, or be imprisoned in the discretion of the court.
- (b) A person convicted of obtaining property or services by bad check when the property or services has a value of less than \$300 is guilty of a misdemeanor and shall be fined not more than \$100, or be imprisoned for not more than 18 months, or be both fined and imprisoned in the discretion of the court.
- (c) In addition to the penalties provided in this section for conviction of the offense of obtaining property or services by a bad check the court may:
- (1) Order restoration of any property which has been the object of the offense and has been recovered from the defendant or another, or which is in the defendant's possession or control, to any person or persons having a property interest therein; and
- (2) Order restitution of the value of any property or services which has been the object of the offense. The restitution may be ordered to be paid to any person having a property interest in the property or the person who provided the services. Restitution may be ordered to the extent that the property is not restored or compensation has not been provided for the services. (1978, ch. 849, § 1; 1979, ch. 687, § 1).

# § 144. Same—Limitation on prosecution.

- (a) The obtaining of property or services by uttering or passing a bad check, when the uttering or passing is not accompanied by any false representations other than a false representation that there are sufficient funds with the drawee to cover the check, may not be prosecuted under the subheading "theft" of this article, or under any other section of this article if the person who obtains the property or services makes the check good within ten days of dishonor by the drawee of the check; and no prosecution shall be commenced by warrant, information, indictment, or other charging document until the expiration of that period of ten days.
- (b) A person who obtains property or services by uttering a bad check may be immediately prosecuted under the subheading "theft" of this article, or any other section of this article if the person uttering the check was the drawer and did not have an account with the drawee at the time of utterance. (1978, ch. 849, § 1; 1982, ch 712).

# **CREDIT CARD OFFENSES**

# § 145. Credit card offenses.

- (a) "Definitions."—For the purpose of this section:
- (1) "Cardholder" means the person or organization named on the face of a credit card to whom or for whose

benefit the credit card is issued by an issuer.

- (2) "Credit card" means an instrument or device, whether known as a credit card, credit plate, or by any other name, issued by an issuer for the use of the cardholder in obtaining money, goods, services or anything else of value on credit. It includes a debit or access card or other device other than a check, draft or similar paper instrument used by the cardholder to effect a transfer of funds that is initiated through an electronic terminal telephone, or computer, or magnetic tape ordering, instructing or authorizing a financial institution to debit or credit an account.
- (3) "Issuer" means the business organization or financial institution which issues a credit card or its duly authorized agent.
- (4) "Receives" or "receiving" means acquiring possession or control of a credit card.
- (b) Fraud in procuring issuance.—A person who makes or causes to be made, either directly or indirectly, any false statement in writing, knowing it to be false and with intent that it be relied on, respecting his identity or that of any other person, firm or corporation, for the purpose of procuring the issuance of a credit card, violates this section and is subject to the penalties set forth in (h) (1) of this section.
- (c) Credit card theft or forgery.—(1) A person who takes a credit card from a person, or from the possession, custody or control of another without the cardholder's consent or who, with knowledge that it has been so taken, receives the credit card with intent to use it or to sell it or to transfer it to a person other than the issuer or the cardholder is guilty of credit card theft and is subject to the penalties set forth in (h) (1) of this section.
- (2) A person who receives a credit card that he knows to have been lost, mislaid, or delivered under a mistake as to the identity or address of the cardholder, and who retains possession with intent to use it or to sell it or to transfer it to a person other than the issuer or the cardholder is quilty of a credit card theft and is subject to the penalties set forth in (h) (1) of this section.
- (3) A person other than the issuer who sells a credit card or a person who buys a credit card from a person other than the issuer violates this section and is subject to the penalties set forth in (h) (1) of this section.
- (4) A person, other than the issuer who receives a credit card which he knows was taken or retained under circumstances which constitute credit card theft or a violation of (b) or (c)(3) above violates this subsection and is subject to the penalties set forth in (h) (1) of this section.
- (5) A person who, with intent to defraud a purported issuer, a person or organization providing money, goods, services or anything else of value, or any other person, falsely makes or falsely embosses a purported credit card, or utters such a credit card or possesses such a credit card with knowledge that such credit card has been falsely made or falsely embossed is guilty of credit card forgery and is subject to the pen-

- alties set forth in (h) (2) of this section. A person "falsely makes" a credit card when he makes or draws, in whole or in part, a device or instrument which purports to be the credit card of a named issuer but which is not such a credit card because the issuer did not authorize the making or drawing, or alters a credit card which was validly issued. A person "falsely embosses" a credit card when, without the authorization of the named issuer, he completes a credit card by adding any of the matter, other than the signature of the cardholder, which an issuer requires to appear on the credit card before it can be used by a cardholder.
- (6) A person other than the cardholder or a person authorized by him who, with intent to defraud the issuer, or a person or organization providing money, goods, services or anything else of value, or any other person, signs a credit card is guilty of credit card forgery and is subject to the penalties set forth in (h) (2) of this section.
- (d) Obtaining money, etc., by theft, forgery or misrepresentation as to holder of credit card.—A person, who, with intent to defraud the issuer, a person or organization providing money, goods, services or anything else of value, or any other person, (i) uses for the purpose of obtaining money, goods, services or anything else of value a credit card obtained or retained in violation of (c) of this section or a credit card which he knows is forged; or (ii) obtains money, goods, services or anything else of value by representing without the consent of the cardholder that he is the holder of a specified card or by representing that he is the holder of a card and such card has not in fact been issued, violates this subsection and is subject to the penalties set forth in (h) (1) of this section, if the value of all money, goods, services and other things of value obtained in violation of this subsection does not exceed \$300; and subject to the penalties set forth in (h) (2) of this section if such value exceeds \$300.
- (3) Fraudulently furnishing money, etc., on stolen or forged credit card; fraudulently failing to furnish money, etc., as represented to issuer.—(1) A person who is authorized by an issuer to furnish money, goods, services or anything else of value upon presentation of a credit card by the cardholder, or any agent or employees of such person, who, with the intent to defraud the issuer or the cardholder, furnishes money, goods, services or anything else of value upon presentation of a credit card obtained or retained in violation of (c) of this section or a credit card which he knows is forged violates this subsection and is subject to the penalties set forth in (h) (1) of this section, if the value of all money, goods, services and other things of value furnished in violation of this subsection does not exceed \$300 and is subject to the penalties set forth in (h) (2) of this section if such value exceeds \$300.
- (2) A person who is authorized by an issuer to furnish money, goods, services or anything else of value upon presentation of a credit card by the cardholder, or any agent or employee of such person, who, with intent

to defraud the issuer or cardholder, fails to furnish money, goods, services or anything else of value which he represents in writing to the issuer that he has furnished violates this subsection and is subject to the penalties set forth in (h) (1) of this section, if the difference between the value of all money, goods, services and anything else of value actually furnished and the value represented to the issuer to have been furnished does not exceed \$300, and is subject to the penalties set forth in (h) (2) of this section if such difference exceeds \$300.

- (f) Completing credit card without consent of issuer; possessing contrivance to reproduce credit card without consent.—A person other than the cardholder possessing an incomplete credit card, with intent to complete it without the consent of the issuer or a person possessing, with knowledge of its character, machinery, plates or any other contrivance designed to reproduce instruments purporting to be the credit cards of an issuer who has not consented to the preparation of such credit cards, violates this subsection and is subject to the penalties set forth in (h) (2) of this section. A credit card is "incomplete" if part of the matter other than the name of the cardholder, which an issuer requires to appear on the credit card, before it can be used by a cardholder, has not yet been stamped, embossed, imprinted or written on it.
- (g) Receiving money, etc., by stolen, forged or misrepresented credit card.—A person who receives money, goods, services or anything else of value obtained in violation of (d) of this section, knowing or believing that it was so obtained violates this subsection and is subject to the penalties set forth in (h) (1) of this section if the value of all money, goods, services and other things of value obtained in violation of this subsection does not exceed \$300; and is subject to the penalties set forth in (h) (2) of this section, if such value exceeds \$300.
- (h) *Penalties*.—(1) A person who is subject to the penalties of this subsection shall be guilty of a misdemeanor and fined a sum not to exceed \$500 or imprisoned not more than 18 months, or both.
- (2) A person who is subject to the penalties of this subsection shall be guilty of a felony and fined a sum not to exceed \$1,000 or imprisoned not more than 15 years, or both.
- (i) If a person commits a violation of this section pursuant to one scheme or continuing course of conduct, from the same or several sources, the conduct may be considered as one offense and the value of the money, goods, services, or anything else of value may be aggregated in determining if the offense is a felony or a misdemeanor.
- (j) Applicability of other laws.—This section shall not be construed to preclude the applicability of any other provision of the criminal law of this State which presently applies or may in the future apply to any transaction which violates this section, unless such provision is inconsistent with the terms of this section.

# Delinquency Charges Not Always Legal

Business and professional people naturally want to offset some of the expense involved in collecting delinquent accounts. But, I.C. System warns they must be careful how they go about it. They must avoid a common trap—the innocent looking practice of adding a modest service charge of \$2 or \$3 to every delinquent account turned over to a collection agency.

Here's the problem. If you have a written contract with a person, which calls for the addition of collection agency fees, then you may legally charge such fees. But without such a contract, these charges are not allowed. And contract means contract. Not a notice imprinted on a statement. Not a sign on the wall. It means an agreement signed by both parties.

So what should you do to recover some of the extra expense involved in handling delinquent accounts? Add damages. Here's how that works.

If a person is late in paying his bill, you have not had the use of that money, and thus are entitled to damages for breach of the agreement to pay you. Damages are measured by the legal rate of interest in your state.

Don't confuse the legal rate of interest you may charge with the contract rate or the rate permitted to be charged by retail merchants on credit cards under an open-end or revolving credit plan. They are different and dependent upon a written contract.

If you add charges to past due accounts but don't have a written contract with your customer or patient, you must confine your charges to the legal rate on open accounts. To find the current rate in your state contact either your attorney, or the Attorney General's office in your state.

How can regulatory authorities determine whether the charges added are legal or illegal? Easy. Following a complaint, they subpoena records either from you or from the collection agency, which show the amounts claimed to be owing, including any additional charges. If the additional charges are the same, even though the original accounts vary in age and amount, they can see that the charges are arbitrary and not related to the legal rate of interest.

It's good advice to add no more than the legal rate of interest when submitting old accounts for collection. It's better advice to submit accounts for collection before they get so old that substantial damages have accrued. As the months go by, the chances of a delinquent account becoming uncollectable multiply much faster than the damages you can charge! (I.C. Collection Agency is endorsed by the Maryland Pharmaceutical Association)

DECEMBER, 1983 · 25

# **LETTERS**



Mr. Philip Caldwell Chairman of the Board Ford Motor Company American Road Dearborn, MI 48126

Dear Mr. Caldwell:

I know for a fact that the "Henry Ford Story" is as true as a piece of Americana as Mark Twain's *Huck Finn*. All over this beautiful Chesapeake Bay area of Maryland, "Huck Finns" of all ages are seen riding in Henry Ford's products carrying everything from potting manure to pedigree bird dogs and retrievers.

The purpose of my letter is simply to ask you a question. Sir, with all of your past effective controls and your economical expertise, have you ever taken the time to figure out the value of an old faithful customer?

There are customers, old customers, then there is that very valuable commodity, the old faithful customer. He, sir, is that individual who year after year purchases your product, brags about your product, and even has a couple old Model T's stored in his barn with one of your famous old Ford tractors. With seven uncles and two son-in-laws we have not just had one, but several Fords out front.

Any village large enough to have a volunteer fire department will certainly have a local pharmacy. That pharmacy is of paramount importance to that community not only to the local doctors and his patients, but to the general public that come in daily for assistance with numerous health problems. This is the same fellow who sees his friends and customers through good times and bad, extends a helping hand, and credit whenever it is needed.

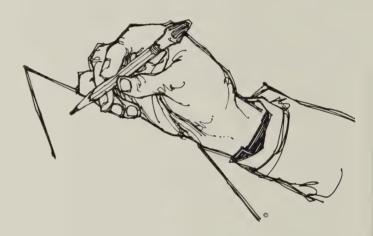
This ill thought, so called cost-effective move, in offering the Ford employees mail prescription service comes as a shock like a slap in the face from an old friend. I will not comment on mail order prescription service. I am sure that you really know that sick people need immediate attention from their neighborhood pharmacist, professionals that know and care about their patients.

If your mail order underwear is a little tight or your socks are not exactly the color as shown in the catalog, this might be forgiveable although time consuming; but exposing your work force to pharmacy services that are constantly late and whose only interest is the almighty dollar is inexcusable.

In conclusion, Mr. Caldwell, in my old established drug store as in many across the country, we display a very pointed slogan, "Ask your family pharmacist." In the venture you have proposed, who will your em-

ployees ask? Who will they show their swelling or rash to after several days on a new medication? Who will they come to when the problems start? Their family pharmacist who has known them, their fathers, their children, and their entire family for years.

Faithful old customer, William C. Hill, Ph.D. President of the Maryland Pharmaceutical Association



Dear Dave:

There will be an orientation program for potential new preceptors in the Professional Experience Program at the University of Maryland School of Pharmacy in January. We are interested in adding preceptors who:

- (1) are good role models for students to emulate
- (2) have a desire to teach the practice aspects of pharmacy
- (3) are willing to devote the time to train students
- (4) have unique aspects or services within their practices

Recommendations for faculty appointments will be made within a short time following this meeting. For additional information, prospective preceptors should contact me at the School of Pharmacy.

Cordially,

Marvin L. Oed, Pharm.B.S. Clinical Assistant Professor and Director, Professional Experience Program University of Maryland School of Pharmacy 20 N. Pine Street Baltimore, MD 21201



Louis Sesti, Executive Director of the Michigan Pharmacists Association, delivered the Francis Ballasone Lecture on September 28, 1983 at the new School of Pharmacy.



Following the Lecture, (from left to right) William J. Kinnard, Jr., Dean of the University of Maryland School of Pharmacy; Melvin Rubin, Treasurer and Past President of the Maryland Pharmaceutical Association; Mr. Sesti; and Harry Bass, President of the Alumni Association, compared notes. All three organizations sponsored the Memorial Lecture.



Patricia DiBernardo has been recently assigned to the Bethesda territory to represent Abbott Laboratories. She has a B.A. Degree from Loyola College in Baltimore.



Marie Jean-Jacques will represent the Syntex Company in the Baltimore area following previous experience with the Purdue Frederick Company and training at the University of Baltimore.

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# **ABSTRACTS**

Excerpted from PHARMACEUTICAL TRENDS, published by the St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor and Leonard L. Naeger, Ph.D., Associate Editor

### **ACETAMINOPHEN TOXICITY:**

The conversion of acetaminophen to an activity arylating metabolite is thought to be necessary in order for toxicity associated with the analgesic to be manifested. One might reduce the toxicity of acetaminophen by reducing the formation of the toxic metabolite. Studies indicate that cimetidine (Tagamet) did not alter the conversion to the toxic substance, but that ethanol did reduce its production. *Lancet*, Vol. I, #8338, p. 1375, 1983.

# INJECTABLE CONTRACEPTIVES:

Two drugs have had extensive use as progesteroneonly injectable contraceptives. Medroxyprogesterone acetate and norethisterone enanthate are effective when administered every 3 to 6 months. Some progesterone injections are made monthly to allow a more reasonable menstrual bleeding pattern. The use of long-acting estrogenic substances can be a disadvantage if a counterindication of their use appears after the long-acting injection has been made. *Drugs*, Vol. 25, #6, p. 570, 1983.

## SIGMA RECEPTORS:

In 1976, the opiate receptors were divided into mu, kappa and sigma receptors based on specific agonists for these sites. Sigma receptors seem to be associated with psychomimetic effects produced by PCP. Furthermore it seems that the (+) isomers of sigma agonists are more selective for producing PCP-like effects than are the (-) isomers. Mu receptors seem to be associated with respiratory and cardiac effects of the opiates as well as with the analgesic activity. *J Pharmacol Exp Ther*, Vol. 225, #3, p. 522, p. 735, 1983.

# **CIRAMADOL:**

A new synthetic compound has been used effectively to threat symptoms associated with post-operative pain. The drug, ciramadol, is said to be an agonist/antagonist with agonist activity similar to that of morphine and antagonistic activity slightly less than that produced by nalorphine (Nalline). The drug was used via the intramuscular route of administration. More studies are being designed to determine if ciramadol will have a role to play in the treatment of post-operative pain. The agonist/antagonist theory holds that the drugs will produce the desired analgesic effect but because of the antagonist activity will decrease the likelihood of abuse. *J Clin Pharmacol*, Vol. 23, #5, 6, p. 219, 1983.

# PEPTIC ULCERS AND STEROIDS:

For many years, a controversy has existed as to the relationship between steroid administration and peptic

ulcer development. Recently investigators have re-evaluated past data and designed experiments to help determine if an association does exist. The results of this work indicates there is an association between corticosteroid administration and gastrointestinal hemorrhage. *N Engl J Med*, Vol. 309, #1, p. 21, 1983.

## INSULIN RECEPTORS AND AGE:

As we age, it appears that there is a tendency to develop glucose intolerance. Studies conducted in elderly patients indicate that this intolerance is due to an increase in the degree of peripheral insulin receptor density which apparently occurs as a function of age. *J Clin Invest*, Vol. 71, #6, p. 1523, 1983.

## MAGNESIUM AND BLOOD PRESSURE:

Patients with arteriolar hypertension were kept on thiazide therapy for long periods of time. They then received supplemental magnesium ions daily for six months and it was noted that both systolic and diastolic blood pressures were reduced. Magnesium levels increased although all other blood and urinary electrolytes remained stable. Magnesium may play a role in essential hypertension. *Br Med J*, Vol. 286, #6381, p. 1847, 1983.

# **DEPRESSION:**

Much effort has been expended trying to find a biological method of detecting and monitoring endogenous depression. Various procedures, including the dexamethasone (Decadron) suppression test, have been found to generally be unsatisfactory. A new biochemical marker for depression has been found. Phenylalanine is metabolized to 2-phenyl-ethylamine (PEA) which in turn is converted into phenylacetic acid (PAA). Brain PEA concentrations seem to modulate alertness, much as an endogenous amphetamine. Deficiencies in this substance are hypothesized to cause depression. Excesses of PEA may cause mania. Since PEA concentrations do not lend themselves to easy analysis, analytical techniques have been developed to measure the metabolite of PEA, PAA. Urine levels of PAA seem to increase in successfully treated depressed patients and thus this may represent an objective measurement of antidepressant therapy. JAMA, Vol. 250, #1, p. 21, 1983.

### LEAD:

Lead has been associated with both hypertension and renal disease. Studies conducted in hypertensive men suggest that lead may play a role in the development of hypertension with renal impairment. EDTA may be used to remove the lead. *N Engl J Med*, Vol. 309, #1, p. 17, 1983.

## DMSO:

Extravasation of anthracycline chemotherapeutic agents into subcutaneous tissue causes severe irritation and possible necrosis. Non-controlled studies indicate that the application of DMSO to the site of extravasation reduces the inflammatory response and pain associated with this problem. Erythema resolved within 7 days. *Ann Intern Med*, Vol. 98, #6, p. 1025, 1983.

# **LEAD LEVELS:**

The level of lead in the plasma of the average person in the United States has dropped during the period between 1976 and 1980. Investigators feel the major reason for the reduction is the switch to non-leaded gasoline as fuel. Leaded fuels release lead into the atmosphere as they are burned. *N Engl J Med*, Vol. 308, #23, p. 1373, 1983.

## AMBROXOL:

Respiratory distress syndrome (RDS) in premature infants accounts for approximately 30,000 deaths per year in this country alone. A new expectorant called ambroxol stimulates production and secretion of naturally occurring surfactants which are necessary for normal respiratory function. Infants affected by RDS apparently do not produce adequate amounts of these substances and this drug therapy may be useful in reducing the number of deaths associated with the condition. The drug is administered antenatally to the mother. *JAMA*, Vol. 249, #18, p. 2425, 1983.

## CIMETIDINE AND GASTRIC ULCERS:

Cimetidine (Tagamet) is widely recognized as having the ability to enhance the healing of duodenal ulcers. A twelve week randomized double-blind study shows that cimetidine in doses of 300 mg given four times daily will expedite the healing of gastric ulcers as well. *N Engl J Med*, Vol. 308, #22, p. 1319, 1983.

# ORAL CONTRACEPTIVES AND BENZODIAZEPINES:

Estrogen contained in low dose oral contraceptives have been shown to reduce the biotransformation of caffeine, antipyrine and diazepam. Presumably, other benzodiazepine derivatives are affected similarly. Studies conducted in women receiving oral contraceptives indicate the clearance of lorazepam and oxazepam are not altered. The latter two drugs are converted directly into inactive metabolites and do not participate in the extensive interconversion of molecular species as is the case of many of the other benzodiazepine derivatives. *Clin Pharmacol Ther*, Vol. 33, #5, p. 628, 1983.

# **ANOREXIA NERVOSA:**

Patients with anorexia nervosa have been studied in efforts to determine the cause of this malady. Studies of blood and cerebrospinal fluids show elevated levels of arginine vasopressin. They become normal with weight gain. The cause and consequence of these findings remain to be determined. *N Engl J Med*, vol. 308, #19, p. 1117, 1983.

## ETHANOL AND HYPOTHERMIA:

Animals were given ethanol and then exposed to various temperatures. It was noted that the lethality of ethanol increased as ambient temperatures were reduced. This is in accordance with partition and membrane expansion-fluidization theories of anesthesia. *J Pharm Pharmacol*, Vol. 35, #5, p. 306, 1983.

## **ALUMINUM:**

Patients receiving chronic parenteral nutrition tend to develop bone disease. Investigators have found the problem to be associated with aluminum toxicity, much the same as is seen in patients receiving dialysis. Both groups of patients tend to demonstrate low levels of parathyroid hormone. *Ann Intern Med*, Vol. 98, #6, p. 910, 1983.

# HIGH ALTITUDE RESPONSES:

Volunteers were examined to determine what effects might be caused by high altitude living. Seventeen healthy males were given base-line physical examinations prior to exposure to high altitudes. Results conducted after a period of time at high elevations show an increase in thyroid activity, probably due to an increase in the activity of thyroid-stimulating hormone. N Engl J Med, Vol. 308, #19, p. 1135, 1983.

# LEPROSY (HANSEN'S DISEASE):

Much progress has been made in the treatment of leprosy and centers such as that in Carville, Louisiana have made strides to help patients both physically and mentally. The major emphasis seems to surround prejudice shown patients with the condition. Efforts are being made to drop the name leprosy and replace it with Hansen's Disease. It is felt that the name change may remove some of the false connotations people might have of leprosy. *Am Med News*, Vol. 26, #22, p. 15, 1983.

## SALT-AN ACQUIRED TASTE:

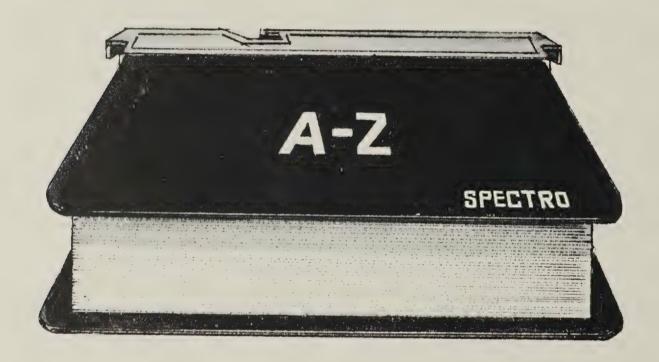
Investigators have performed a series of studies designed to determine if the taste for salt is inherited or acquired. Results from a sophisticated study sponsored by the H. J. Heinz Company of Canada has led investigators to conclude that the taste for salt is acquired rather than inherited. *JAMA*, Vol. 249, #22, p. 2999, 1983.

# **TIBALOSINE:**

A new alpha-1 blocking agent has been shown to be effective in reducing blood pressure. The new agent, tibalosine, is said to work centrally yet have some peripheral action. Only a slight tranquilizing effect was noted in two patients but no obvious sedation was observed. *Clin Pharmacol Ther*, Vol. 33, #5, p. 556, 1983.

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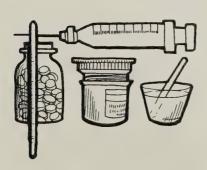
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